

CITY OF SANTA FE SPRINGS

# GENERAL PLAN APPENDIX










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# PORTRAIT OF SANTA FE SPRINGS

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Prepared For:

City of Santa Fe Springs

Prepared By:

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## I. Nature of Census Data

### Introduction

In May, 1991, the first detailed statistical data from the 1990 Census of Population became available. This summary constructs a general overview of the City of Santa Fe Springs, based on a distillation of that initial evidence.

The accompanying tables, charts, and maps were prepared by A. C. Lazzaretto & Associates from the Summary Tape File 1 (STF1) records for the City and eleven geographic sub-units known as census tracts. This information was derived from the various census questions which were asked of all persons such as age, racial self-identification, type of housing unit, and housing ownership and rental tenure.

Since the census data consists of information collected by individual residents, some material may not adequately reflect accurate assessments. For example, home values were determined by each individual and may not correctly portray its market worth in today's economy. In addition, the comparison between 1980 census data and 1990 census data is difficult to accurately assess since the structuring of questions and other crucial information varied, i.e. the wording used in defining Spanish origin in 1980 and Hispanic origin in 1990 may have caused the same respondent to answer differently in one census analysis than the other.

### Census Statistics

Readers are cautioned about the nature of data reporting and limitations of scale. Census data only portray the aggregate characteristics of major groups or pre-defined geographic areas. In order to protect the confidentiality of individuals, statistical data are less likely to be disclosed for groups with small populations or for smaller geographic areas. Throughout 1992 and 1993 additional census findings will become available for the city, focusing on information gathered from the one-in-six households who answered the enumeration "long form."

### The Profile Characteristics

Unless otherwise indicated, the reported characteristics are based on the 1990 Census STF1 extracts. In selected instances, figures from the 1980 Census have been included as a reference frame, as well as 1990 Census extracts from surrounding cities.

Population totals for the city and its constituent census tracts are those reported by the Census Bureau. Hence, they do not reflect any adjustment for potential undercounting or new development within the City. Age counts are grouped into five- and ten-year bands, which are termed population cohorts.

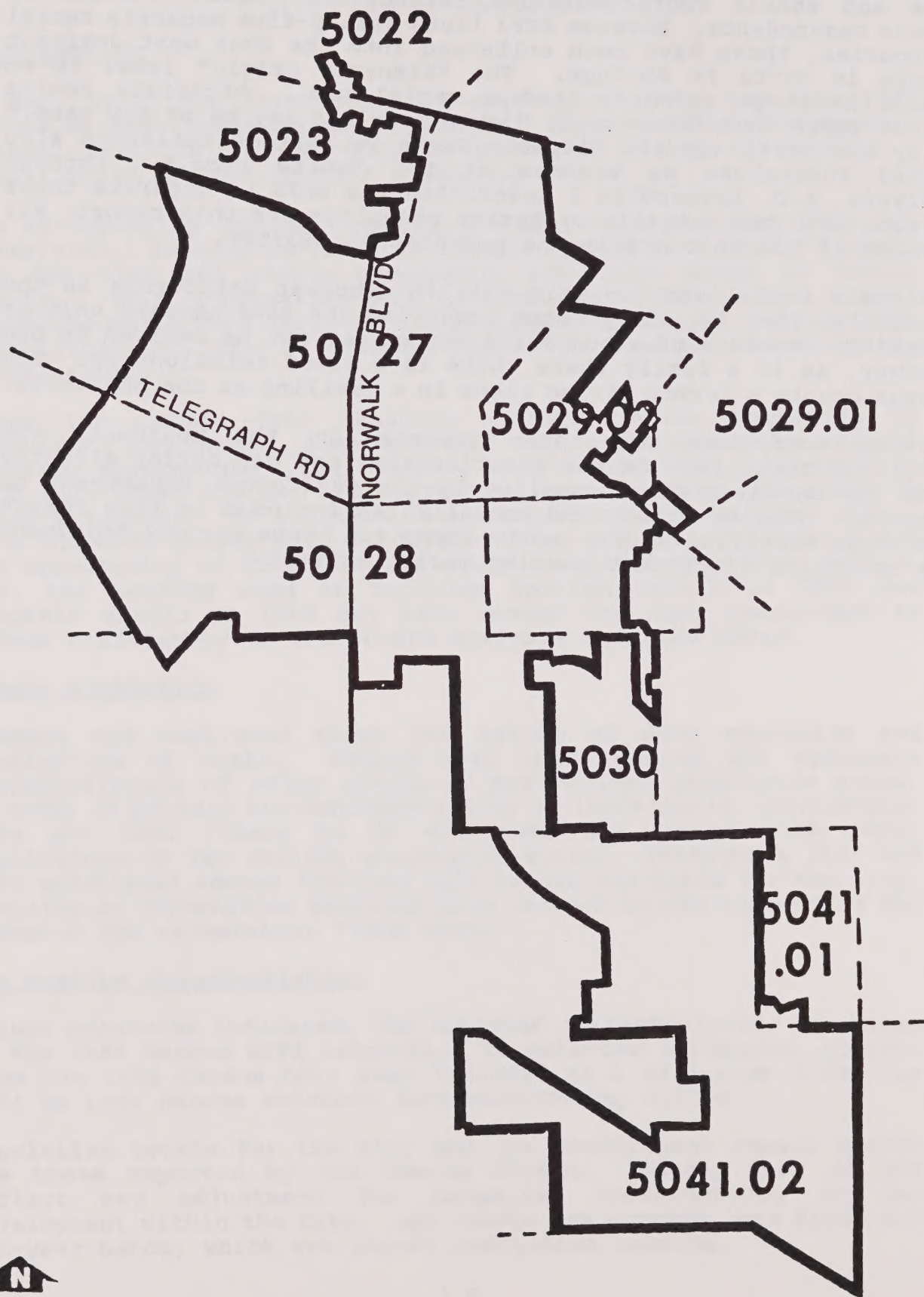


Race and ethnic characteristics reflect self-classification by census respondents. Because STF1 lists twenty-five separate racial categories, those have been collapsed into the four most dominant groups in Santa Fe Springs. The "Hispanic origin" label is an ethnic heritage category, not a racial one. Officials remind census users that "Persons of Hispanic origin may be of any race." Fully two-thirds of all Hispanic Santa Fe Springs residents also listed themselves as members of the "white race." Through analysis, A.C. Lazzaretto & Associates was able to separate those persons into two mutually exclusive groupings for this report: all persons of Hispanic origin and non-Hispanic Whites.

The basic social and economic unit in suburban California is the household; that is, all persons occupying the same housing unit or dwelling. Members of a household may or may not be related to one another, as in a family where there is a blood relationship. The Census counts a person living alone in a dwelling as one household.

Housing conditions are those reported by the residents who completed their 1990 Census questionnaire and may differ slightly from the annual figures supplied by the California Department of Finance. Housing values and rental rates included in this report are those specified on the census forms and hence may not represent the economics of current housing market activity.





1990 CENSUS TRACTS



## II. Population and its Age Structure

Though Santa Fe Springs is not thought of as a residential community, it does contain over 15,000 people. This number could change as the State of California and the Southern California Association of Governments (SCAG) continue to require an increased housing supply to meet the expected growth forecast in population and employment. The population profile of Santa Fe Springs reflects the city's developmental maturity and broader demographic pressures unfolding within the Los Angeles region. As is the case with many established suburbs the total population in Santa Fe Springs has stabilized. That stability, however, masks several important trends.

- \* The 1990 Census counted 15,520 residents in Santa Fe Springs. The City's population is 6.9% above the 1980 figure of 14,520.
- \* Though Santa Fe Springs has eleven census tracts, over 90% of the population is located in tracts 502700 and 502800, almost 7% in tract 502300, and the other 2%+ is scattered throughout the remaining eight tracts.
- \* Citywide, about 32% of all residents are in the school-age years. That group is most prevalent in tracts 502700 and 502800, where most of the population is located.
- \* Fifty-six percent of the families in tract 502700 contain at least one member under the age of 18, compared to 51% in tract 502800.
- \* The 1990 median age throughout the city is 33.3 years. This is consistent in tracts 502700 and 502800.
- \* When comparing the City median age of 26.9 for 1980 and the median age of 33.3 years for 1990, an average increase of over 6 years can be seen in the City's population.
- \* Thirty-six percent of the Non-Hispanic whites living in Santa Fe Springs are age 55 and over. Yet, only 17% of community residents who are of Hispanic origin, 13% who are Black, and 15% of Asian/Pacific Island Heritage, fall into that age category.
- \* 19% of the Non-Hispanic White population, 36% with Hispanic origin, 33% of the Asian/Pacific Islander group, and 44% of the residents in the Black classification are school-aged (19 years of age or under). In the last ten years, there has been a five percent increase in the population of school-aged residents.



- \* When comparing 1990 to data collected in 1980, one notices that age groups 5-24 and 45-59 decreased in population, while those ranging from 25-34 years of age remained relatively constant. The amount of people in the 35-44 and 60+ ranges increased, with the 65 and up group doubling in size. The latter observation is apparent in cities nationwide.
- \* Two multi-family senior projects constructed since 1980, may have contributed to the increase in the City's senior population. This construction was in anticipation of the growth in the senior age cohort, as discussed in the previous note.



# TOTAL POPULATION COUNTS, SANTA FE SPRINGS CENSUS TRACTS

	<u>1980</u>	<u>1990</u>	<u>Absolute Change</u>	<u>Percent Change</u>
Santa Fe Springs	14,520	15,520	+1,000	+6.9%
502200		1		
502300		1,039		
502700		6,806		
502800		7,174		
502901		13		
502902		122		
503000		139		
504101		--		
504102		27		
550200		199		
550300		--		

## SANTA FE SPRINGS CHANGING AGE COMPOSITION, 1980 AND 1990

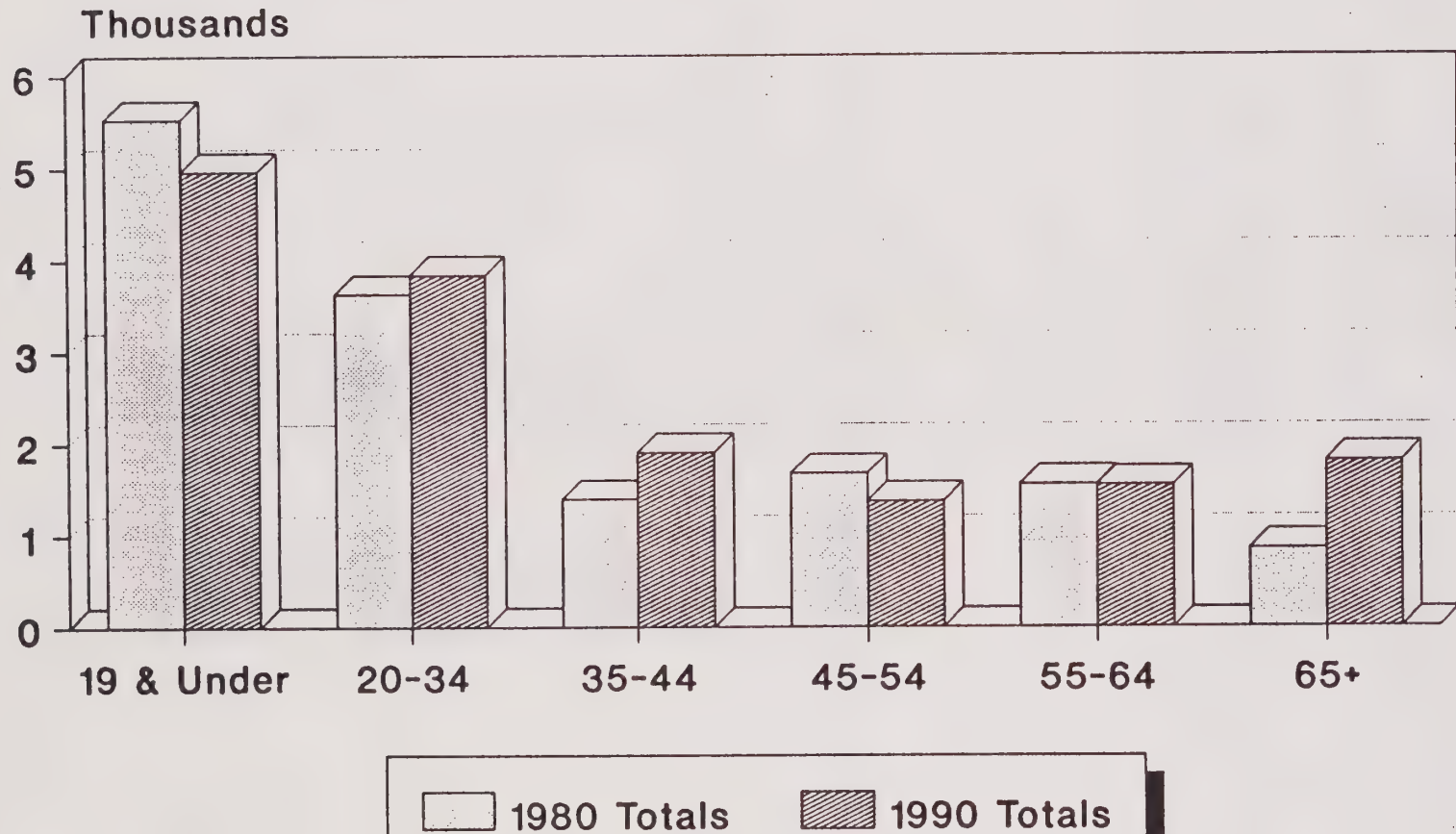
Age Cohort	<u>Numbers</u>		<u>Shares of Total</u>	
	1980	1990	1980	1990
0-4	1,234	1,328	8.5	8.5
5-9	1,282	1,206	8.8	7.8
10-14	1,385	1,212	9.5	7.8
15-19	1,518	1,219	10.5	7.8
20-24	1,384	1,257	9.5	8.1
25-29	1,232	1,325	8.5	8.5
30-34	1,016	1,256	7.0	8.1
35-44	1,392	2,001	9.6	12.9
45-54	1,671	1,369	11.5	8.9
55-59	925	696	6.4	4.5
60-64	627	847	4.3	5.5
65-74	598	1,283	4.1	8.3
75+	256	521	1.8	3.3
Median Age:	26.9	33.3		

Source: 1980 Census Report and 1990 Census Summary Tape File 1A, Calculations by A.C. Lazzarretto & Associates



# Population Age Mix

## City of Santa Fe Springs





# AGE COMPOSITION BY CENSUS TRACT FOR ALL PERSONS: 1990 By Number of Total Residents

Age Cohorts	City Total	502200	502300	502700	502800	502901	502902	503000	504101	504102	550200	550300
0-4	1328	---	113	565	578	---	16	13	---	4	39	---
5-9	1206	---	84	509	559	---	14	17	---	2	21	---
10-14	1212	---	66	554	569	---	11	4	---	1	7	---
15-19	1219	---	72	547	579	3	4	5	---	2	7	---
20-24	1257	---	153	531	528	2	10	8	---	2	23	---
25-29	1325	---	130	567	558	---	11	30	---	2	27	---
30-34	1256	---	91	547	568	---	8	21	---	3	18	---
35-39	1094	---	82	473	503	---	12	10	---	---	14	---
40-44	907	---	51	387	450	2	4	8	---	1	4	---
45-49	739	---	29	340	346	3	4	7	---	2	8	---
50-54	630	---	34	300	286	---	2	2	---	2	4	---
55-59	696	---	36	309	330	---	7	6	---	1	7	---
60-64	847	1	32	384	408	1	11	3	---	3	4	---
65-74	1283	---	39	572	652	---	6	5	---	---	9	---
75+	521	---	27	221	260	2	2	---	---	2	7	---
Total	15520	1	1039	6806	7174	13	122	139	0	27	199	0
Percentage of City Total	100.0%	<.1%	6.7%	43.9%	46.2%	<.1%	.8%	.9%	<.1%	.2%	1.3%	<.1%
Median Age	33.3		28.6	33.6	34.1	41.2	30.0	28.4		33.3	27.2	

Source: 1990 Census Summary Tape File 1A, Calculations by A.C. Lazaretto & Associates



# **AGE COMPOSITION BY CENSUS TRACT FOR ALL PERSONS: 1990** By percentage of Population

Age Cohorts	City Total	502200	502300	502700	502800	502901	502902	503000	504101	504102	550200	550300
0-4	8.5	---	10.9	8.3	8.0	---	13.1	9.3	---	14.9	19.6	---
5-9	7.8	---	8.1	7.5	7.8	---	11.5	12.2	---	7.4	10.6	---
10-14	7.8	---	6.4	8.1	7.9	---	9.0	2.9	---	3.7	3.5	---
15-19	7.8	---	6.9	8.0	8.1	23.0	3.3	3.6	---	7.4	3.5	---
20-24	8.1	---	14.7	7.8	7.4	15.4	8.2	5.8	---	7.4	11.6	---
25-29	8.5	---	12.4	8.3	7.8	---	9.0	21.6	---	7.4	13.6	---
30-34	8.1	---	8.8	8.0	7.9	---	6.6	15.1	---	11.1	9.1	---
35-39	7.1	---	7.8	7.0	7.0	---	9.8	7.2	---	---	7.0	---
40-44	5.8	---	4.9	5.7	6.3	15.4	3.3	5.8	---	3.7	2.0	---
45-49	4.8	---	2.8	5.0	4.8	23.0	3.3	5.0	---	7.4	4.0	---
50-54	4.1	---	3.3	4.4	4.0	---	1.6	1.4	---	7.4	2.0	---
55-59	4.5	---	3.5	4.5	4.6	---	5.8	4.3	---	3.7	3.5	---
60-64	5.5	100	3.1	5.7	5.7	7.8	9.0	2.2	---	11.1	2.0	---
65-74	8.3	---	3.8	8.4	9.1	---	4.9	3.6	---	---	4.5	---
75+	3.3	---	2.6	3.3	3.6	15.4	1.6	---	---	7.4	3.5	---
Total	100%	100%	100%	100%	100%	100%	100%	100%	0	100%	100%	0
Percentage of City Total		<.1%	6.7%	43.9%	46.2%	<.1%	.8%	.9%	<.1%	.2%	1.2%	<.1%
Median Age	33.3		28.6	33.6	34.1	41.2	30.0	28.4		33.3	27.2	

Source: Calculations by A.C. Lazzaretto & Associates from 1990 Census Summary Tape File 1A



**SANTA FE SPRINGS AGE MIX: 1990**

AGE COHORT	ALL PERSONS	NON-HISPANIC		ASIAN/PI	BLACK
		WHITE	HISPANIC		
Youth					
0-4	1328	205	991	80	41
5-9	1206	186	908	64	38
10-14	1212	178	939	44	40
15-19	1219	174	949	59	23
Young Adults					
20-24	1257	208	963	61	17
25-29	1325	295	933	63	22
30-34	1256	269	848	88	40
Middle Adults					
35-39	1094	291	705	72	19
40-44	907	250	583	47	18
45-49	739	210	475	39	12
50-54	630	198	386	29	11
Older Adults					
55-59	696	267	381	27	18
60-64	847	337	474	29	5
Seniors					
65-74	1283	548	675	40	13
75+	521	243	246	14	5
Total	15,520	3,869	10,456	756	322
Percentage of City Total					
	100%	24.9%	67.4%	4.9%	2.1%
Median Age	33.3	41.9	30.5	30.7	27.0

Source: Census Summary Tape File 1A, Computations by A.C. Lazzaretto & Associates



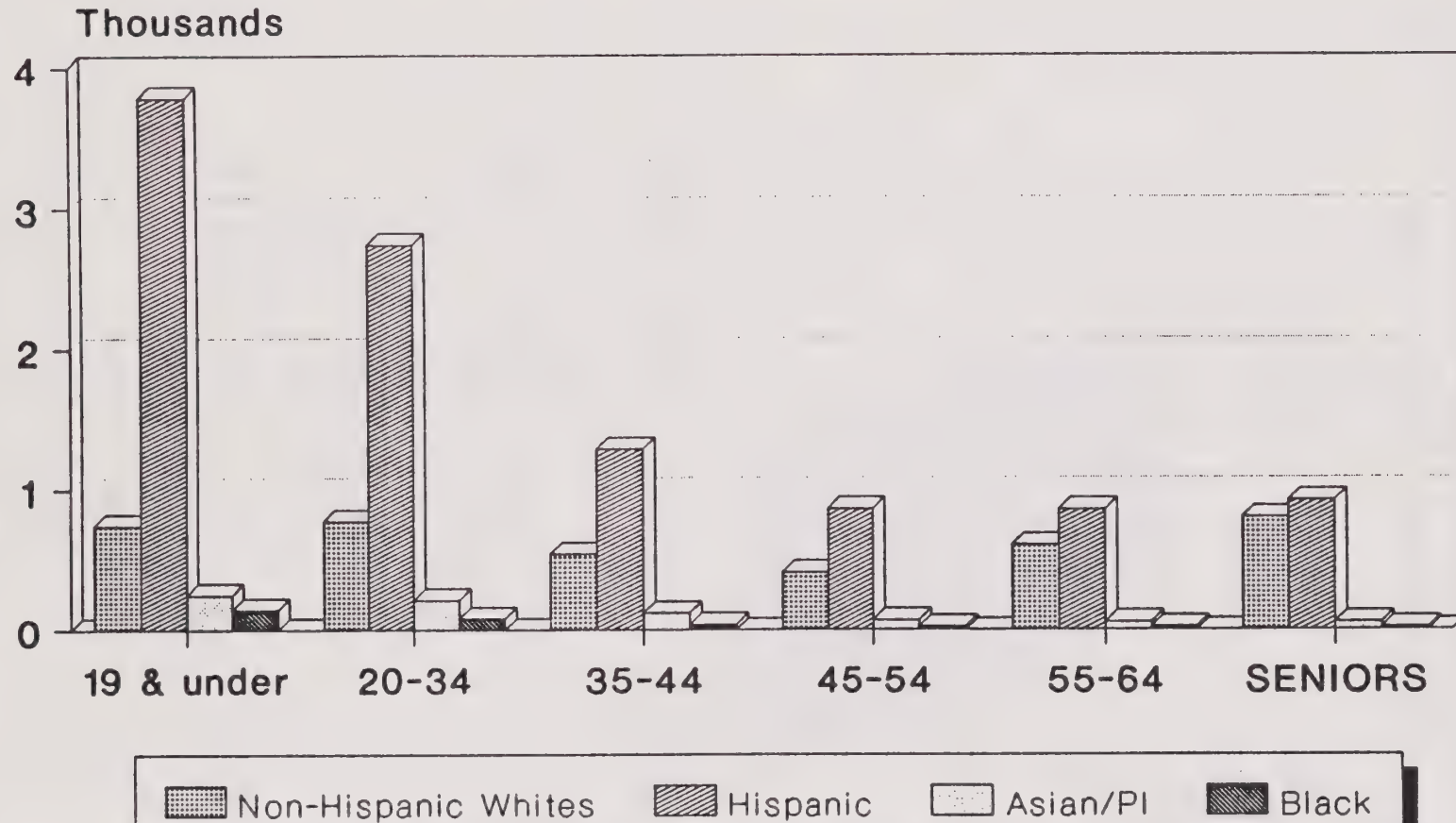
### III. Racial/Ethnic Composition

Southern California's image as an increasingly multi-cultural region spread far and wide during the past decade. Even Santa Fe Springs, though small in comparison to many southland communities, realized an increase in cultural heritage diversification.

- \* While the total population of Santa Fe Springs increased only 6.9%, its Hispanic population rose about 20%, or 10,456 total population for 1990.
- \* Its Black group soared by over 500% since 1980. This includes 262 Black/African Americans.
- \* The Asian/Pacific Island group increased by 152%, which includes a total of 642 people as of 1990.
- \* Santa Fe Springs experienced a decrease in the Non-Hispanic White group by almost 30%. The total number for this group is 4,054 for 1990.
- \* An important ethnic split can be seen between census tracts 502700 and 502800. The Hispanic group makes up over 80% of the population in tract 502700, while only 53.4% in tract 502800. Non-Hispanic whites make up only 14.5% of tract 502700, while almost 40% in 502800.
- \* There are over four times as many Hispanics in the 19 and under age group, than all other social groups combined.
- \* Hispanics make up the largest ethnic group in each age group in Santa Fe Springs.
- \* 2.1% (322 out of 15,520) of the city's total population is Black or African-American. Of these, 60 also list themselves as of Hispanic origin.
- \* About 4.9% of City residents classified themselves as being of Asian or Pacific Island descent. The two largest Asian subgroups in Santa Fe Springs list their origin either as the Philippines (41%) or Vietnam (13.4%). Korea (11.8%), Mainland China (9.0%), and Japan (8.3%) follow. Together, these five subgroups make up the majority of the Asian or Pacific Island classification in the City of Santa Fe Springs.



# AGE COMPOSITION BY MAJOR SOCIAL GROUPS



CITY OF SANTA FE SPRINGS



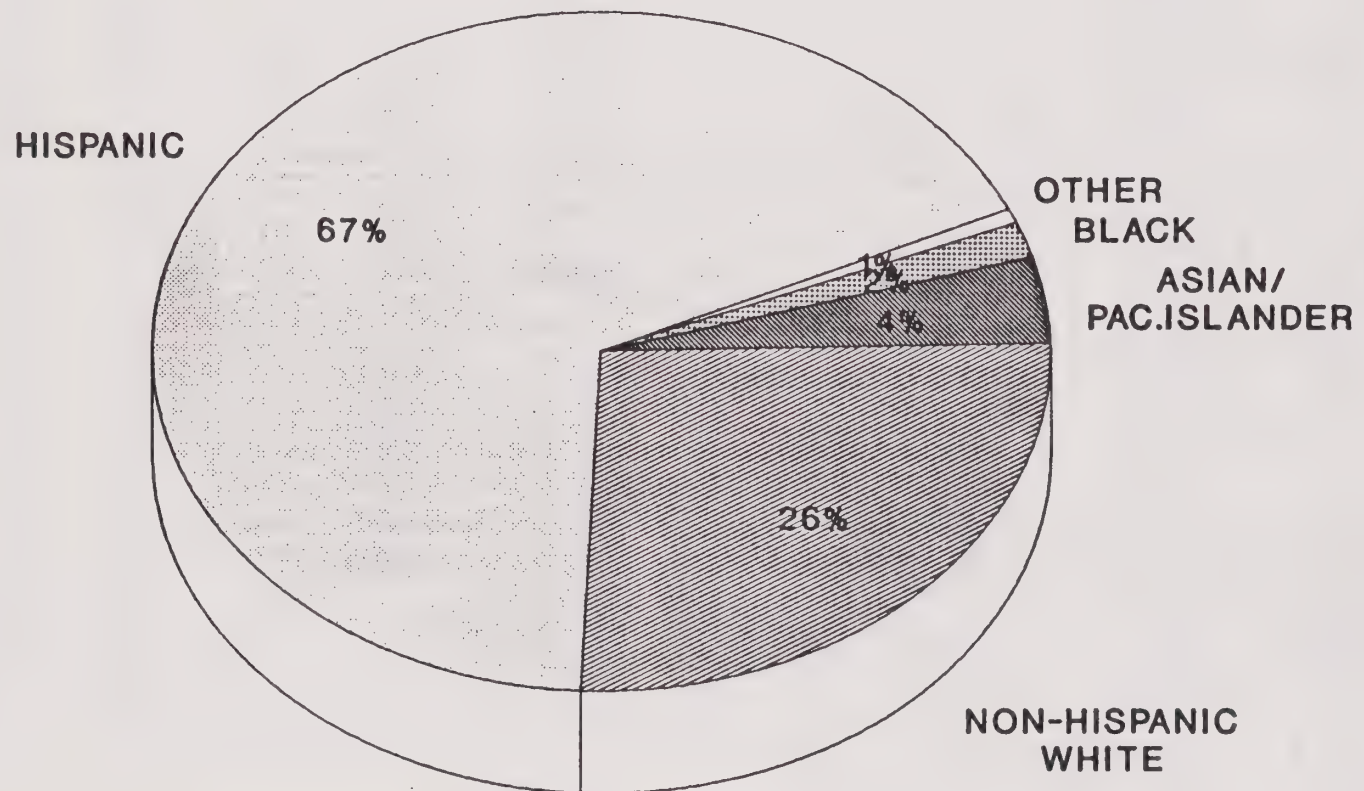
**ETHNIC AND RACIAL COMPOSITION BY CENSUS TRACT, 1990**

	<u>Non-Hispanic White</u>	<u>Hispanic</u>	<u>Asian/PI</u>	<u>Black</u>	<u>Other</u>	<u>Total</u>
S.F.S.	4,054	10,456	642	262	106	15,520
502200	1	--	--	--	--	1
502300	118	844	41	31	5	1,039
502700	984	5,471	259	68	24	6,806
502800	2,812	3,828	307	154	73	7,174
502901	--	13	--	--	--	13
502902	11	104	7	--	--	122
503000	68	42	18	9	2	139
504101	--	--	--	--	--	--
504102	7	14	5	--	1	27
550200	53	140	5	--	1	199
550300	--	--	--	--	--	--
S.F.S.	26.1%	67.4%	4.1%	1.7%	0.7%	100%
502200	100%	--	--	--	--	100%
502300	11.4%	81.2%	3.9%	3.0%	0.5%	100%
502700	14.5%	80.4%	3.8%	1.0%	0.3%	100%
502800	39.2%	53.4%	4.3%	2.1%	1.0%	100%
502901	--	100%	--	--	--	100%
502902	9.0%	85.3%	5.7%	--	--	100%
503000	48.9%	30.2%	13.0%	6.5%	1.4%	100%
504101	--	--	--	--	--	--
504102	25.9%	51.9%	18.5%	--	3.7%	100%
550200	26.6%	70.4%	2.5%	--	0.5%	100%
550300	--	--	--	--	--	--

Source: 1980 Census Report & 1990 Census Summary Tape File 1A, Calculations by A.C. Lazzaretto & Associates



# ETHNIC/RACIAL COMPOSITION



SANTA FE SPRINGS: 1990



#### IV. Households

Any group of persons who occupy a housing unit is considered to be a household. They need not be related to one another. Each household is presumed to constitute a functional unit, sharing economic resources and providing social support.

Over the course of the last two decades, the typical American household has changed radically. It has become smaller (with fewer children), more reliant on multiple sources of financial support, and less likely to consist of the traditional nuclear family with young children. More and more families include three generations, which consists of children, parents, and grandparents. This is partly due to the fact that modern medicine has increased the average life of a person and today's economy is such that elderly private care facilities are all but financially impossible. It is unfortunate that a rapidly increasing number of other non-traditional families, consisting of single parents, are also more visible in the surrounding areas, as well as across the nation. In short, living arrangements in most communities are very diverse, even more so than the variety in the housing stock would suggest.

- \* At the time of the 1990 census, Santa Fe Springs contained 4,656 households, representing a gain of 8.9% above the 1980 figure of 4,276.
- \* The 1,488 married couples with children (32% of total) outnumbered the 1,240 couples with no children present in the household (26.6%). This second group consists both of empty-nesters and young couples in the early stages of family development.
- \* Single parent households make up 20.7% of the City's total. Female headed households with young children, account for almost half of that category.
- \* Just over 17 percent of the households are comprised of a person who lives alone. Fifty-four percent of those living alone are age 65 or over.
- \* Families with children are over one and one-half times as prevalent among Hispanic households as in non-Hispanic households.
- \* In contrast, the proportion of one-person households is two and one-half times greater among non-Hispanics in the community.
- \* The median household size as of 1990 stands at 3.33, slightly down from 3.39 a decade ago. There is quite a significant household size difference between owners at 3.61 and renters at 2.91.

- \* Almost 97% of the housing stock is owner-occupied. This is down about one-percent from 1980.
- \* The owner-to-renter ratio has fallen from 2.18 in 1980 to 1.85 in 1990. This could be accounted for by the addition of two senior multi-family rental projects since 1980.
- \* The Asian/Pacific Island group has the highest owner-to-renter ratio at 2.70, followed by the White group at 2.17, Hispanic (1.65) and Black (0.2) groups.



**SANTA FE SPRINGS HOUSEHOLD COMPOSITION: 1990**

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	<u>City</u>	<u>Non-Hispanic</u>	<u>Hispanic</u>
Couples, w/children	1,488 (32%)	448	1,040
Couples, no children	1,240 (26%)	603	637
Female HH w/children	459 (10%)	133	326
Female HH w/extended fam.	260 (6%)	115	145
Male HH w/children	132 (3%)	31	101
Male HH w/extended fam.	113 (2%)	41	72
Living Alone	796 (17%)	522	274
Other Non-family	168 (4%)	96	72
 Total Households	 4,656 (100%)	 1,989	 2,667
Mean Household Size	3.33		

Source: 1990 Census Summary Tape File 1A, Calculations by A.C. Lazzaretto & Associates

# SANTA FE SPRINGS HOUSEHOLD TENURE

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	<u>Own</u>	<u>Rent</u>	<u>Own-To-Rent Ratio</u>
S.F.S. City: 1980	2,931	1,345	2.18
S.F.S. City: 1990	3,020	1,636	1.85
Hispanic	1,565	948	1.65
Asian/PI	127	47	2.70
Black	17	83	0.20
White	1,849	854	2.17

Source: 1980 Census Report and 1990 Census Summary Tape File 1A, Calculations by A.C. Lazzaretto & Associates



## V. Housing Profile

Though Santa Fe Springs remains mainly an industrial city, it can be characterized by its diverse housing stock as well. Santa Fe Springs contains mainly owner-occupied single-family detached units, with a few multi-family rental units.

- \* Over 63% of Santa Fe Spring's 4,817 housing units are single-family detached structures. Attached single-family dwellings, primarily apartments, make up 5.1 percent of the local housing supply.
- \* Approximately two thirds of the multi-family housing in the City are located in complexes of twenty units or more.
- \* The largest number (44.2%) of multi-family housing units are in tract 502800.
- \* All but 2 of the 121 mobile homes lie within census tracts 502700 and 502800.
- \* Housing unit type does not vary much between census tracts 502700 and 502800, except in two major areas. Tract 502800 contains over 4 times as many owner-occupied mobile homes and twice as many multi-family structures with over 20 attached units than in tract 502700.
- \* Tract 502800 contains one and one-half times more renters than 502700, while containing about the same amount of owner occupied units. 502700 contains 2.76 owners-to-renters, while the ratio in tract 502800 is only 1.88.
- \* Owners comprise 62.7 percent of all Santa Fe Springs households; renters comprise 34 percent, with the remaining vacant. Only one-fourth of the renters are in single-family dwellings.
- \* Renter occupancy is highest in census tracts 502700 (31.2%) and 502800 (48.2%), where a majority of the population exists. Yet, even in these locations, renters make up only one-third of the total households.
- \* The average number of persons per unit for various types of housing range from a low 1.51 in mobile homes to 3.58 in single family detached housing.

Economic attributes of the housing within any jurisdiction are highly fluid, often displaying confusing and seemingly contradictory pictures, depending upon what is being measured, who is taking the measurements, and when such measures are compiled. In the 1990 Census, housing values and rents are those stated by

the occupants. As such, they may not reflect the market conditions of what was available for rent or for sale at the time the data were collected. For example, longstanding owners are known to underestimate housing values but newcomers in newer units often inflate the "worth" of their housing.

- \* The 1990 Census reported a median value of \$149,750 for owner-occupied units. Fifty-eight percent of all owner housing fell into the \$150,000 to \$199,999 band. Only 2% were valued at more than \$250,000.
- \* Highest owner housing values were given for tract 502901, at over \$258,000. This value is misleading since this tract only includes 3 homes.
- \* Quite a difference in home values can be seen between tracts 502700 and 502800, at \$159,915 and \$176,870, respectively.
- \* Home values more than doubled since 1980 when the median home was valued at \$66,500. This is an increase of 125.2% in the last decade, which seems extreme until one compares to a neighboring city, such as La Mirada where home values increased from \$84,700 in 1980 to \$209,700 in 1990; a 147.6% appreciation.
- \* Local residents, as of 1990, who are renters pay a median rent of \$535 as opposed to \$259 in 1980 (An increase of 106.6%). Again, this seems like a tremendous increase until a comparison is made with another City. La Mirada saw an increase of 121.2%; from \$316 in 1980 to \$699 in 1990.
- \* Almost one-fourth of the renters in Santa Fe Springs pay less than \$400, while only 2.2% pay more than \$1,000.
- \* The average rent in census tract 502700 is only \$417.90 (22% below the City average), as compared to \$642.81 (20% above the City average) in tract 502800.

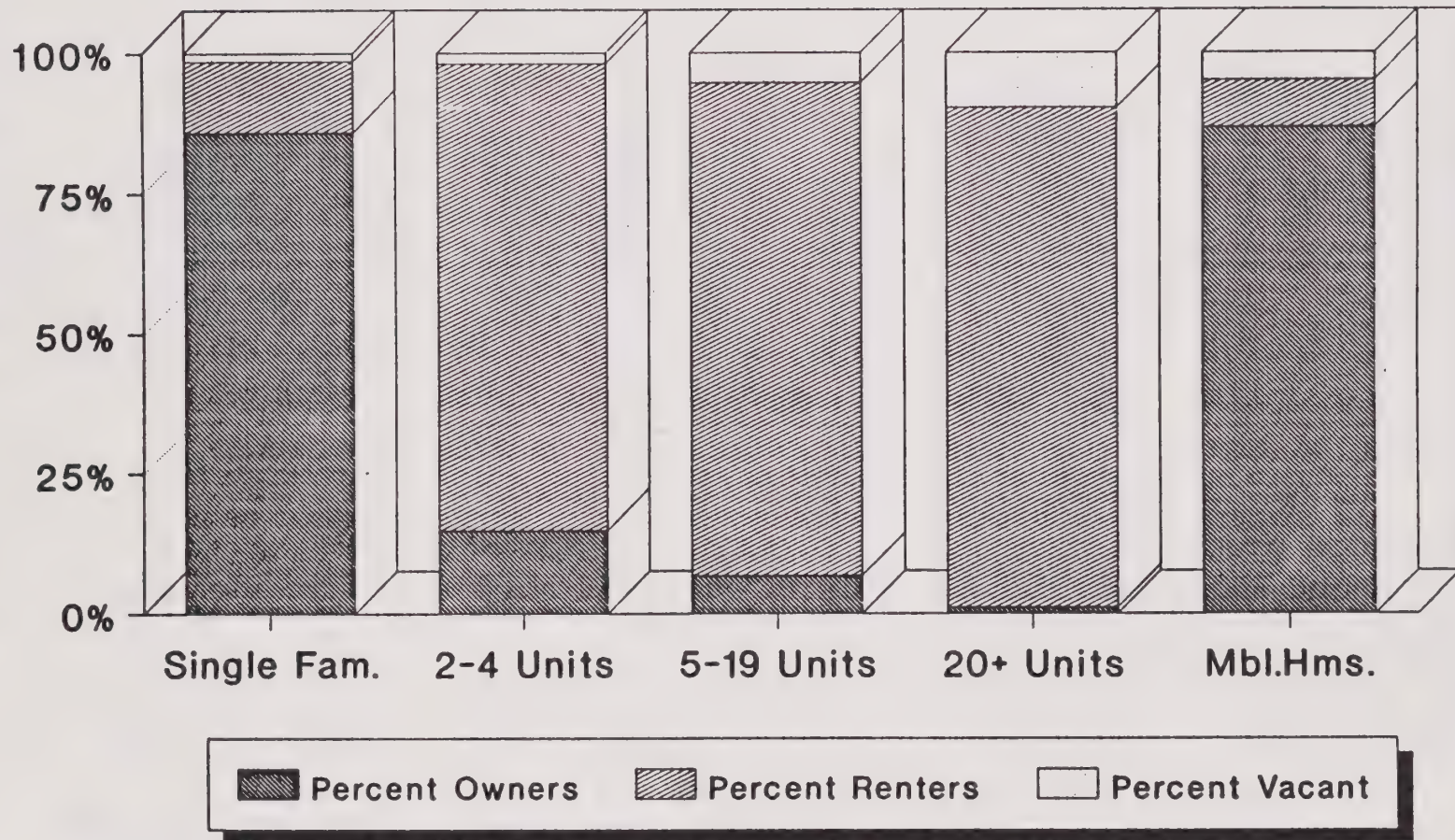


SUMMARY HOUSING MARKET CONDITIONS, 1990  
CITY OF SANTA FE SPRINGS

	<u>Total #</u>	<u>Percent</u>	<u>1980</u>	<u>Percent</u>
OCCUPANCY/VACANCY LEVELS				
* Occupied Housing Units	4,656	96.7%	4,276	97.6%
* Vacant Housing Units	161	3.3%	106	2.4%
HOUSING MIX				
* Single Family Detached	3,054	63.4%	3,072	71.9%
* Single Family Attached	245	5.1%	48	1.1%
* Multi-Family	1,347	28.0%	1,074	25.1%
* Mobile Home	121	2.5%	82	1.9%
* Other	50	1.0%	--	
PERSONS PER UNIT BY HOUSING TYPE (Own)				
* Single Family Detached	3.58		3.67	
* Single Family Attached	2.76		3.62	
* Multi-Family	3.23		3.34	
* Mobile Home	1.51		1.74	
* Other	3.79		--	
(Rent)				
* Single Family Detached	3.93		3.68	
* Single Family Attached	3.55		1.71	
* Multi-Family	2.85		2.65	
* Mobile Home	2.00		1.00	
* Other	2.90		--	
Persons per unit by tenure				
* Owner	2.97		3.61	
* Renter	3.04		2.91	

Source: 1980 Census Report and 1990 Census Summary Tape File 1A, Calculations by A.C. Lazzaretto & Associates

# HOUSEHOLD TENURE BY TYPE OF STRUCTURE



City of Santa Fe Springs



# HOUSING UNIT TYPE BY CITY AND CENSUS TRACT

	<u>Single Family</u>		<u>Multi-Family</u>			<u>Mobile Home</u>	<u>Other</u>	<u>Total</u>
	<u>Detached</u>	<u>Attached</u>	<u>2-4</u>	<u>5-19</u>	<u>20+</u>			
<u>Owners</u>								
S.F.S CITY	2633	201	16	27	9	105	29	3,020
502200	1	--	--	--	--	--	--	1
502300	31	13	1	10	2	--	--	57
502700	1270	84	6	7	5	17	18	1,407
502800	1298	77	1	4	2	88	10	1,480
502901	3	--	--	--	--	--	--	3
502902	24	--	--	--	--	--	--	24
503000	3	27	8	5	--	--	1	44
504101	--	--	--	--	--	--	--	--
504102	3	--	--	1	--	--	--	4
550200	--	--	--	--	--	--	--	--
550300	--	--	--	--	--	--	--	--
<u>Renters</u>								
S.F.S City	376	40	89	349	751	10	21	1,636
502200	--	--	--	--	--	--	--	--
502300	7	6	2	56	171	--	4	246
502700	191	12	41	114	143	2	7	510
502800	170	17	45	107	437	6	7	789
502901	--	--	--	--	--	--	--	--
502902	4	1	--	--	--	--	1	6
503000	3	4	--	1	--	--	1	9
504101	--	--	--	--	--	--	--	--
504102	1	--	--	1	--	2	--	4
550200	--	--	1	70	--	--	1	72
550300	--	--	--	--	--	--	--	--
Vacant	45	4	2	21	83	6	--	161
Total	3,054	245	107	397	843	121	50	4,817

Source: 1990 Census Summary Tape File 1A, Calculations by A.C. Lazzaretto & Associates

# SANTA FE SPRINGS HOUSING UNIT VALUES BY CENSUS TRACT, 1990

	Less than \$100k	\$100k to \$149k	\$150k to \$199k	\$200k to \$249k	\$250k to \$299k	\$300k to More	Median Value
S.F.S City	172	577	1,572	317	40	14	\$149,750
502200	--	--	--	1	--	--	\$225,000
502300	--	17	18	5	--	--	\$160,315
502700	116	324	725	112	12	3	\$159,915
502800	54	204	811	195	26	11	\$176,870
502901	--	--	--	1	2	--	\$258,335
502902	1	7	13	3	--	--	\$161,145
503000	--	25	3	--	--	--	\$137,500
504101	--	--	--	--	--	--	--
504102	1	--	2	--	--	--	\$127,500
550200	--	--	--	--	--	--	--
550300	--	--	--	--	--	--	--

Source: 1990 Census Summary Tape File 1A, Calculations by A.C. Lazzaretto & Associates



HOUSING MARKET VALUE AND RENT DISTRIBUTION  
CITY OF SANTA FE SPRINGS

---

	<u>Total #</u>	<u>Percent</u>
Value of owner occupied units		
Less than \$100,000	172	6.4%
\$100,000 to \$149,999	577	21.4%
\$150,000 to \$199,999	1,572	58.4%
\$200,000 to \$249,999	317	11.8%
\$250,000 to \$299,999	40	1.5%
\$300,000 or more	14	0.5%
1990 Median:	\$149,750	
1980 Median:	\$ 66,500	
Contract rent, renter occupied units		
Less than \$400	389	24.1%
\$400 to \$499	143	8.9%
\$500 to \$599	343	21.2%
\$600 to \$699	335	20.7%
\$700 to \$999	338	20.9%
\$1,000 or more	36	2.2%
No cash rent	32	2.0%
1990 Median:	\$535	
1980 Median:	\$259	

# CIRCULATION







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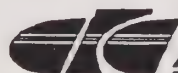
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***CITY OF SANTA FE SPRINGS  
GENERAL PLAN TRAFFIC ANALYSIS***

***DECEMBER 1993***

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***AUSTIN-FOUST ASSOCIATES, INC.***





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# **INTRODUCTION**

---

This report presents the results of an analysis of the City of Santa Fe Springs circulation system, and was prepared to provide technical background data for the Circulation Element of the City's General Plan update. The material contained in this report discusses current conditions, presents future traffic forecasts, and discusses these forecasts in relation to the proposed General Plan Circulation Element.

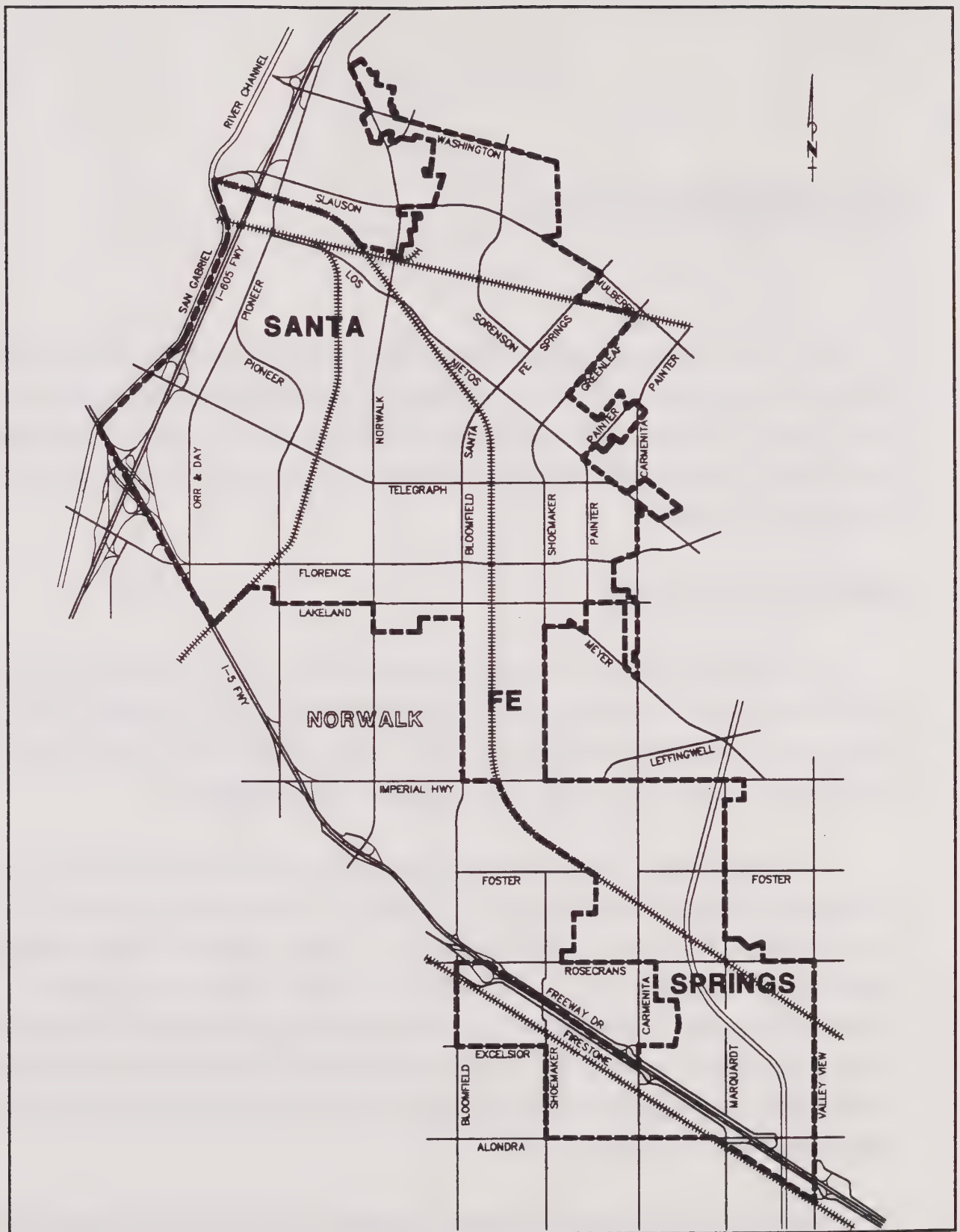
## **OBJECTIVES AND SCOPE**

The traffic analysis material presented in this report was prepared to assist in updating the General Plan Circulation Element for the City of Santa Fe Springs. The objectives of the traffic analysis were to relate future land uses to future traffic demands and to identify the type of circulation system that will be needed to serve these future traffic demands.

The first part of the report summarizes current traffic volumes and levels of service on the existing highway system. To provide data for this description of existing traffic conditions, both peak hour and daily traffic volume data were assembled. For future conditions, traffic model data was utilized to prepare forecasts of daily traffic volumes on the City's circulation system based on future land use in the City and the surrounding areas. This information was then used to reach conclusions regarding future capacity needs on the City's arterial highway system. Information was also assembled on travel modes such as transit and bicycles, and was used to define the other components of the General Plan Circulation Element.

The study area is illustrated in Figure I-1 and includes the City of Santa Fe Springs and the adjacent portion of the City of Norwalk north of the I-5 Freeway. The traffic forecast data presented in this report was prepared from the City of Santa Fe Springs Traffic Model (SFSTM). Future





**LEGEND**  
 ----- CITY BOUNDARY

**Figure I-1**  
**STUDY AREA**

forecasts are based on land use and circulation assumptions in the City of Santa Fe Springs, and also take into consideration ambient growth from the surrounding areas.

## PERFORMANCE CRITERIA

Evaluating the ability of the circulation system to serve the desired future land uses requires establishing suitable "performance criteria". These are the means by which traffic volumes are compared to circulation system capacity, and the adequacy of that circulation system assessed.

Performance criteria have a policy component which establishes a desired level of service (LOS) and a technical component which specifies how traffic data can be used to measure the achievement of the criteria. The performance criteria used for evaluating volumes and capacities on the city street system are summarized in Table I-1 and include both average daily traffic (ADT) link volume and peak hour intersection volume criteria. Table I-2 describes traffic flow quality for different levels of service.

## DEFINITIONS

Certain terms used throughout this report are defined below to clarify their intended meaning:

ADT	Average Daily Traffic.
DU	Dwelling Unit.
ICU	Intersection Capacity Utilization. A measure of the volume-to-capacity ratio for an intersection used to determine the level of service.
LOS	Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial segments. The levels range from "A" to "F", with LOS "A" representing free flow traffic and LOS "F" representing severe traffic congestion.
Peak Hour	The hour during the AM peak period (typically 7 AM - 9 AM) or the PM peak period (typically 3 PM - 6 PM) in which the greatest number of vehicle trips are generated by a given land use or are travelling on a given roadway.
TSF	Thousand square feet.

Table I-1

CIRCULATION SYSTEM PERFORMANCE CRITERIA

The following are the performance criteria used for comparing volumes and capacities on the city street and highway system:

I. AVERAGE DAILY TRAFFIC (ADT) LINK VOLUMES

Level of Service C - Secondary and Local arterials

Level of Service D - Major arterials

Level of Service E - Regional highways and augmented capacity roadways

Table A below shows ADT volumes corresponding to these levels of service.

II. PEAK HOUR INTERSECTION VOLUMES

Level of Service D - Threshold level of service

Table B below shows how these levels of service are specified.

Table A  
ADT LEVEL OF SERVICE VOLUMES BY FACILITY TYPES

FACILITY TYPE	MAXIMUM VOLUME		
	LOS C	LOS D	LOS E
Major (6 lanes divided)	46,000	51,000	57,000
Major (4 lanes divided)	30,000	34,000	38,000
Secondary (2 to 4 lanes undivided)	24,000	27,000	30,000
Local (2 lanes undivided)	12,000	13,000	15,000

Table B  
PEAK HOUR LEVEL OF SERVICE

Peak hour intersection Level of Service (LOS) to be based on Intersection Capacity Utilization (ICU) values calculated as follows:

Saturation flow rate	1,600 Vehicles Per Hour (VPH)
Clearance interval	.05

Levels of Service are as follows:

LEVEL OF SERVICE	MAXIMUM ICU VALUE
LOS A	.60
LOS B	.70
LOS C	.80
LOS D	.90
LOS E	1.00
LOS F	Above 1.00



Table I-2

## PEAK HOUR LEVEL OF SERVICE DESCRIPTIONS

LEVEL OF SERVICE	TRAFFIC FLOW QUALITY	V/C VALUE
<b>I. VOLUME/CAPACITY RELATIONSHIPS<sup>(1)</sup></b>		
A	Low volumes; high speeds; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.	0 - .60
B	Operating speeds beginning to be affected by other traffic; between one and 10 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	.61 - .70
C	Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standards.	.71 - .80
D	Tolerable operating speeds; 31 to 70 percent of the signal cycle have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.	.81 - .90
E	Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	.91 - 1.00
F	Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can drop to zero; traffic volume will be less than the volume which occurs at Level of Service "E."	Above 1.00

**II. INTERSECTION DELAY RELATIONSHIPS<sup>(2)</sup>**

- |   |   |
|---|---|
| A | Low delay (less than 5.0 seconds per vehicle). Occurs when progression is extremely favorable, and most vehicles arrive during the green phase and do not stop at all.  |
| B | Delay in the range of 5 to 15 seconds per vehicle. Generally occurs with good progression and/or short cycle lengths.   |
| C | Delay in the range of 15 to 25 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.   |
| D | Delay in the range of 25 to 40 seconds per vehicle, and the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. |
| E | Delay in the range of 40 to 60 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.   |
| F | Delay in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.                       |

Sources: <sup>(1)</sup>Highway Capacity Manual, Highway Research Board Special Report 87, National Academy of Sciences, 1965.  
<sup>(2)</sup>Highway Capacity Manual, Transportation Research Board Special Report 209, National Research Council, 1985.

- VPD      Vehicles Per Day. This has the same meaning as ADT, but is generally used in a trip generation context rather than in reference to a highway volume at some selected location.
- VPH      Vehicles Per Hour.
- V/C      Volume-to-Capacity Ratio. This is typically described as a percentage of capacity utilized by existing or projected traffic on a segment of arterial or at an intersection.

## **TRANSPORTATION SETTING**

---

This chapter describes the existing transportation conditions in the City of Santa Fe Springs. The existing roadway system is first discussed, followed by a summary of recent traffic volume counts and corresponding levels of service at key intersections. The highway circulation plan contained in the City's current General Plan Circulation Element is then presented, followed by discussions on existing transit routes, bikeway plans and railroad lines in the City.

### **ANALYSIS AREA**

The City of Santa Fe Springs is located in the southeast portion of Los Angeles County and is bounded to the north by unincorporated Los Angeles County, to the west by the San Gabriel River Channel and the cities of Downey and Pico Rivera, to the southwest by the I-5 Freeway and City of Norwalk, directly south by the City of Cerritos, and to the east by the Cities of Whittier and La Mirada and unincorporated Los Angeles County. The current city limits are illustrated in Figure II-1.

### **EXISTING ROADWAYS**

The existing roadway system in the City of Santa Fe Springs is illustrated in Figure II-2 together with the number of midblock travel lanes on the individual roadway segments.

Two freeways serve as regional access to the city, the I-605 Freeway with an interchange at Telegraph Road, and the I-5 Freeway. The I-5 Freeway dissects the southern portion of the City of Santa Fe Springs with interchanges at Rosecrans Avenue, Carmenita Road and Alondra Boulevard via two freeway frontage roadways, Freeway Drive and Firestone Boulevard. The I-5 and I-605 Freeways operate with three travel lanes in each direction near these interchanges.



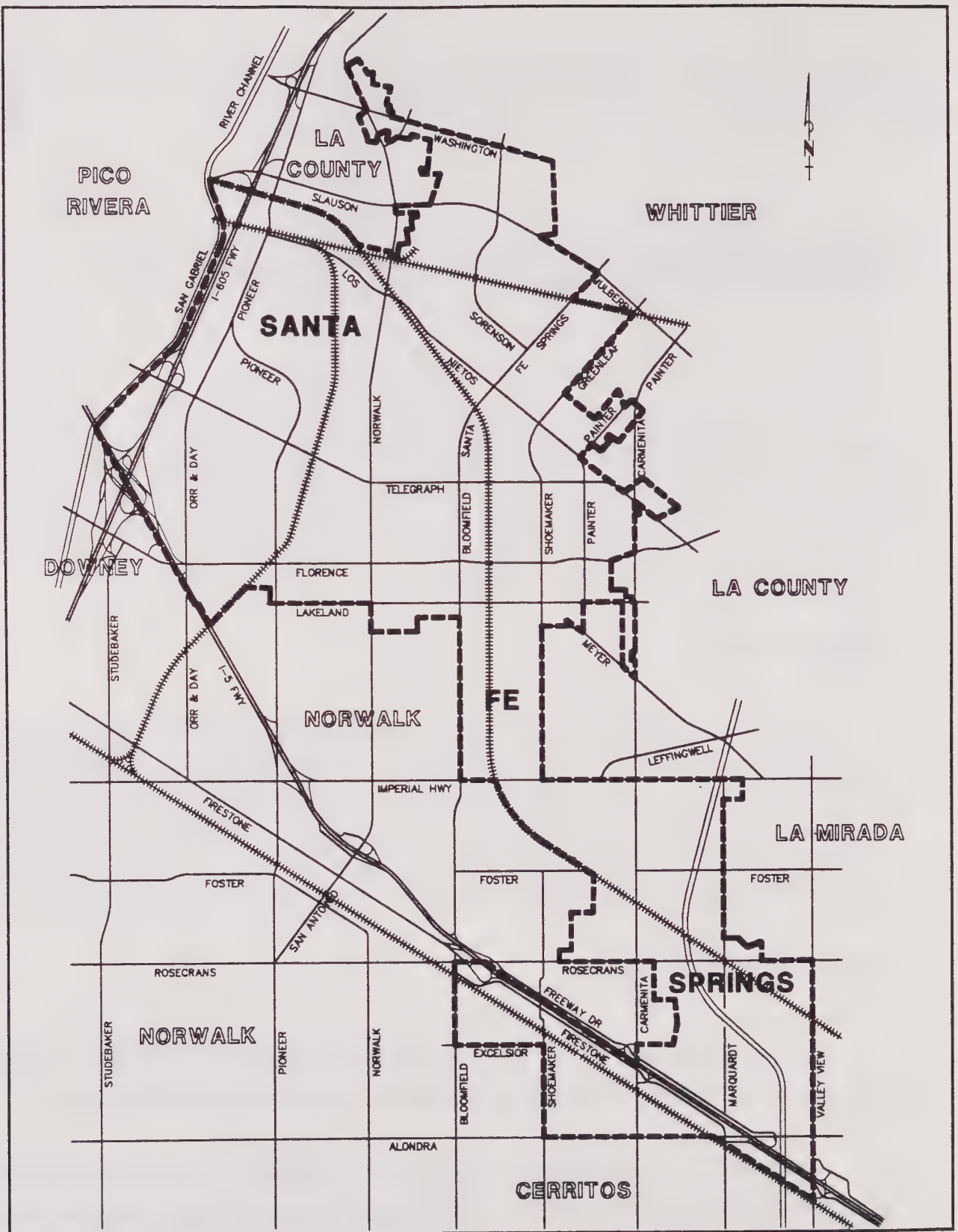
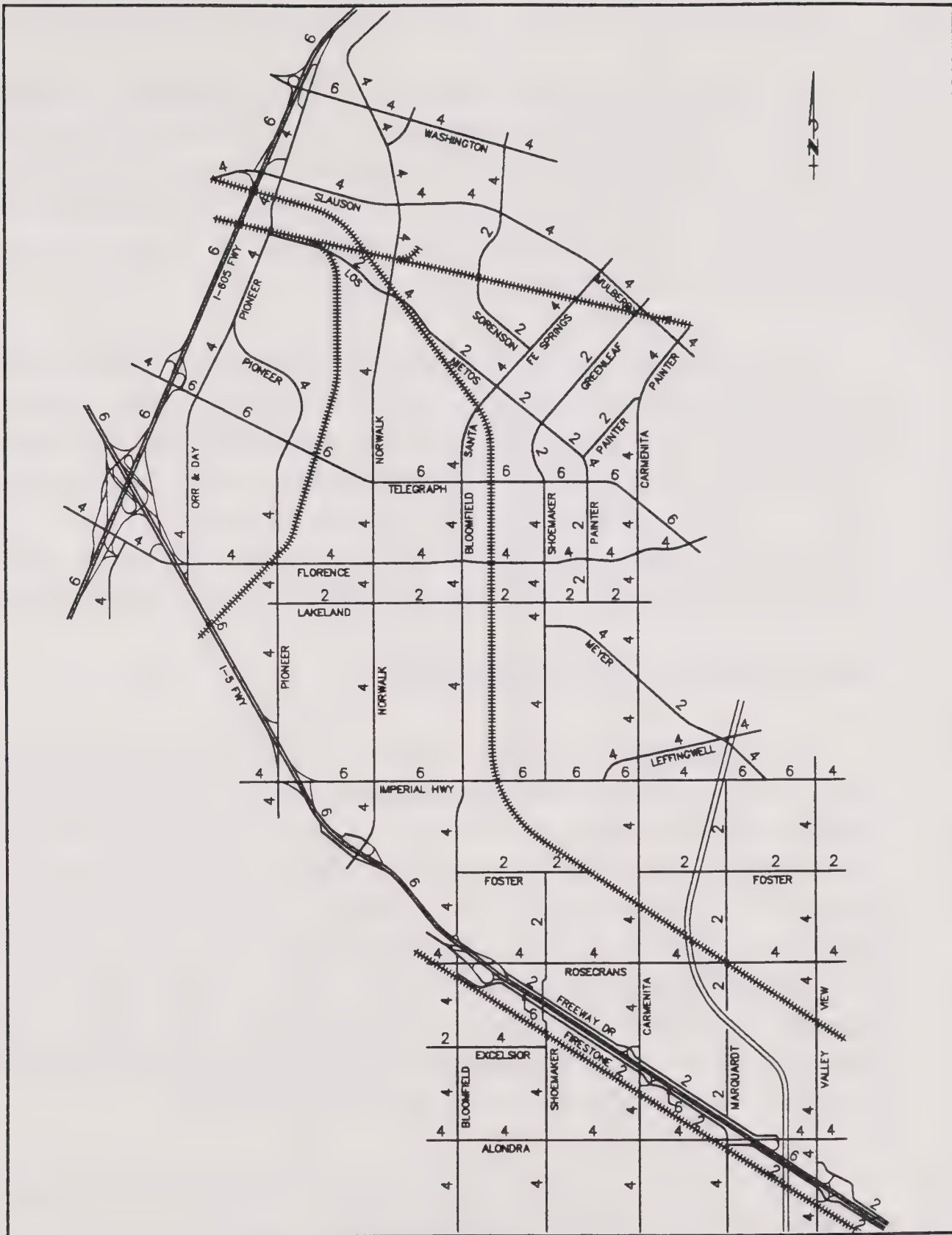


Figure II-1  
ANALYSIS AREA



LEGEND

X Midblock lanes

Figure II-2

EXISTING CIRCULATION SYSTEM

On the arterial system, primary east/west travel in the City is provided by Telegraph Road which operates at six lanes throughout the city, by Imperial Highway with four lanes from the eastern city limits to Shoemaker Avenue where there are six lanes and by Florence Avenue, Washington Boulevard, Rosecrans Avenue and Alondra Boulevard all of which operate at four lanes. Secondary east/west travel is provided by Los Nietos Road which operates at four lanes with the exception of a two-lane section between Dice Road and Painter Avenue.

Primary north/south arterial travel is provided by Norwalk and Pioneer Boulevards, Carmenita and Orr and Day Roads, Santa Fe Springs Road/Bloomfield Avenue and Valley View Avenue all of which operate at four lanes with the exception of the two-lane Carmenita Road overcrossing of the I-5 Freeway and a two-lane section of Carmenita Road between Imperial Highway and Rosecrans Avenue. Secondary north/south travel is provided by Sorenson Avenue, Greenleaf Avenue/Shoemaker Avenue, Painter and Marquardt Avenues. Each of these facilities operates as a four-lane arterial with the exception of Marquardt Avenue which is only striped for two lanes.

## **TRAFFIC VOLUMES AND LEVELS OF SERVICE**

Recent average daily traffic (ADT) volumes on the city's circulation system are shown in Figure II-3 along with the corresponding volume/capacity (V/C) ratios. These volumes reflect the traffic volume on a particular segment of roadway during a 24-hour period, and were collected between April 1992 and October 1992. The heaviest volumes on the arterial system occur on Telegraph Road with volumes ranging from 27,000 vehicles per day (VPD) west of Painter Avenue to 53,000 VPD west of Orr and Day Road, on Imperial Highway west of Shoemaker with 38,000 VPD and on Florence Avenue with 23,000 VPD west of Carmenita Road to 48,000 VPD west of Pioneer Road. Moderately heavy traffic volumes are also noted on Alondra Boulevard (20,000 - 27,000 VPD), Valley View Avenue (26,000 - 34,000 VPD), Slauson Avenue (32,000 VPD), Carmenita Road (21,000 - 25,000 VPD) and Rosecrans Avenue (23,000 - 33,000 VPD).

Table II-1 summarizes the existing levels of service for selected key arterials. Also noted are link locations where the performance criteria are exceeded.





Table II-1

## EXISTING LEVELS OF SERVICE - ADT LINK VOLUMES

ROADWAY SEGMENT	CAPACITY	VOL	V/C	LOS
Alondra E/O Shoemaker	38	22	.58	A
Alondra E/O Carmenita	38	20	.53	A
Alondra W/O Valley View	38	27	.71	C
Bloomfield W/O Florence	38	12	.32	A
Bloomfield W/O Imperial Hwy	38	12	.32	A
Carmenita S/O Imperial Hwy	38	24	.63	B
Carmenita N/O Rosecrans	38	25	.66	B
Carmenita N/O Alondra	38	21	.55	A
Florence E/O Studebaker	38	40	1.05	F*
Florence W/O Pioneer	38	48	1.26	F*
Florence E/O Pioneer	38	34	.89	D
Florence E/O Norwalk	38	30	.79	C
Florence E/O Bloomfield	38	28	.74	C
Florence W/O Carmenita	38	23	.61	B
Greenleaf W/O Los Nietos	15	9	.60	A
Imperial Hwy E/O Norwalk	57	37	.65	B
Imperial Hwy W/O Shoemaker	57	38	.67	B
Lakeland W/O Bloomfield	15	5	.33	A
Los Nietos W/O Norwalk	15	7	.47	A
Los Nietos W/O Santa Fe Spgs	15	11	.73	C
Los Nietos W/O Painter	30	12	.40	A
Marquardt N/O Rosecrans	15	7	.47	A
Marquardt S/O Rosecrans	15	4	.27	A
Marquardt N/O I-5	15	2	.13	A
Norwalk N/O Slauson	38	18	.47	A
Norwalk S/O Los Nietos	38	19	.50	A
Norwalk N/O Florence	38	18	.47	A
Orr & Day N/O Telegraph	38	10	.26	A
Orr & Day N/O Florence	38	16	.42	A
Painter N/O Florence	15	6	.40	A
Pioneer N/O Los Nietos	38	12	.32	A
Pioneer N/O Telegraph	38	7	.18	A
Pioneer N/O Florence	38	12	.32	A
Rosecrans W/O Carmenita	38	33	.87	D
Rosecrans W/O Valley View	38	27	.71	C
Rosecrans E/O Valley View	38	23	.61	B
Santa Fe Spg N/O Los Nietos	38	16	.42	A
Santa Fe Spgs N/O Telegraph	38	14	.37	A
Shoemaker N/O Florence	30	11	.37	A
Shoemaker N/O Imperial Hwy	30	9	.30	A
Slauson W/O Sorenson	38	32	.84	D

(Continued)

Table II-1 (cont)  
EXISTING LEVELS OF SERVICE - ADT LINK VOLUMES

ROADWAY SEGMENT	CAPACITY	VOL	V/C	LOS
Sorenson S/O Washington	38	15	.39	A
Sorenson S/O Sleuson	15	7	.47	A
Telegraph W/O Orr & Day	57	53	.93	E
Telegraph W/O Pioneer	57	44	.77	C
Telegraph E/O Pioneer	57	42	.74	C
Telegraph W/O Painter	57	27	.47	A
Telegraph E/O Carmenita	57	33	.58	A
Valley View S/O Rosecrans	38	26	.68	B
Valley View N/O Alondra	38	34	.89	D
Washington W/O Sorenson	38	41	1.08	F*

Level of service ranges: .00 - .60 A  
 .61 - .70 B  
 .71 - .80 C  
 .81 - .90 D  
 .91 - 1.00 E  
 Above 1.00 F

\* Indicates performance standard exceeded  
 Note: All numbers are in thousands



Existing AM and PM peak hour turn movement counts were also collected for a set of major intersections throughout the city. Peak period counts were made from 7:00 to 9:00 AM and 4:00 to 6:00 PM, and the peak hour of each individual intersection represents the maximum one-hour total volume within the two-hour peak period.

Existing intersection levels of service are calculated using the peak hour counts in combination with the geometric lane configuration of each intersection location. The technique used to assess the operation of an intersection is known as intersection capacity utilization (ICU). A level of service (LOS) scale is used to evaluate intersection performance based on ICU values. The levels range from "A" to "F", with LOS "A" representing free flow conditions and LOS "F" representing severe traffic congestion. A description of traffic flow qualities characteristic of different levels of service and corresponding ICU ranges is summarized in Table II-2. Every jurisdiction establishes its own criteria for acceptable congestion levels, and the City of Santa Fe Springs uses a value of .90 (LOS "D") as the maximum acceptable ICU value for an urban environment.

Figure II-4 illustrates the intersections examined in this traffic study, and Figures II-5 and II-6 illustrate the existing intersection geometric lane configurations assumed for use in calculating the ICUs. Existing ICU values are listed in Table II-3 together with the date on which each intersection count was performed, and Figures II-7 and II-8 illustrate the AM and PM peak hour ICU values, respectively. Detailed ICU calculations can be found in Appendix A.

As the summaries indicate, a number of intersections show ICU values greater than .90, indicating that on the day of the count, the maximum acceptable ICU value was exceeded. Two intersections showing ICUs greater than .90 in both the AM and PM peak hours are Norwalk Boulevard and Washington Boulevard (AM ICU=1.03, PM ICU=.93) and Valley View Avenue and Alondra Boulevard (AM ICU=1.02, PM ICU=.98). Two intersections in the AM peak hour are over the desirable level of .90, these being Carmenita Road at Foster Road (ICU=.91) and Firestone Boulevard/I-5 southbound ramps (ICU=.93). Heavy congestion occurs in the AM peak hour on Carmenita Road at Firestone Boulevard/I-5 southbound ramps mainly because of its close proximity to the two-lane bridge over the I-5 Freeway, thereby adversely affecting the capacity at this intersection. Two intersections in the PM peak hour are also operating above .90. They are Carmenita Road intersections at Telegraph Road and Imperial Highway (ICUs=.92 and .96, respectively).

Table II-2

## PEAK HOUR LEVEL OF SERVICE DESCRIPTIONS

LEVEL OF SERVICE	TRAFFIC FLOW QUALITY	ICU VALUE
A	Low volumes; high speeds; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.	0.00 - 0.60
B	Operating speeds beginning to be affected by other traffic; between one and 10 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	0.61 - 0.70
C	Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standards.	0.71 - 0.80
D	Tolerable operating speeds; 31 to 70 percent of the signal cycle have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.	0.81 - 0.90
E	Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	0.91 - 1.00
F	Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can drop to zero; traffic volume will be less than the volume which occurs at Level of Service "E."	Above 1.00

Source: Highway Capacity Manual, Highway Research Board Special Report 87, National Academy of Sciences, Washington D.C., 1965, Page 320

Definitions: **Peak Traffic Period** - The period of time in which the greatest number of vehicle trips are traveling on given roadways.

**Signal Cycle** - Any complete sequence of signal indications.

**Queue** - A line of vehicles.

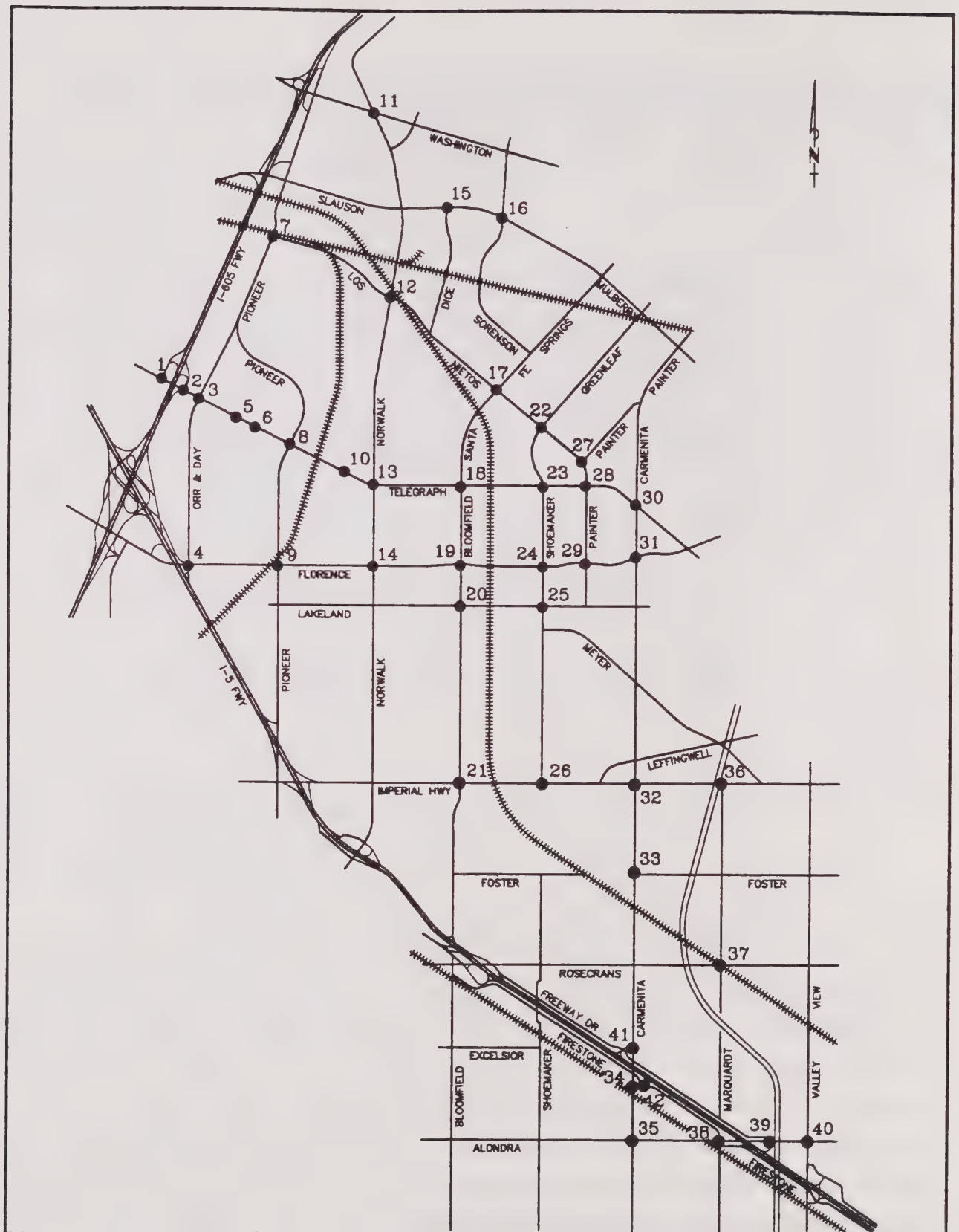


Figure II-4  
INTERSECTIONS EXAMINED  
IN THIS STUDY



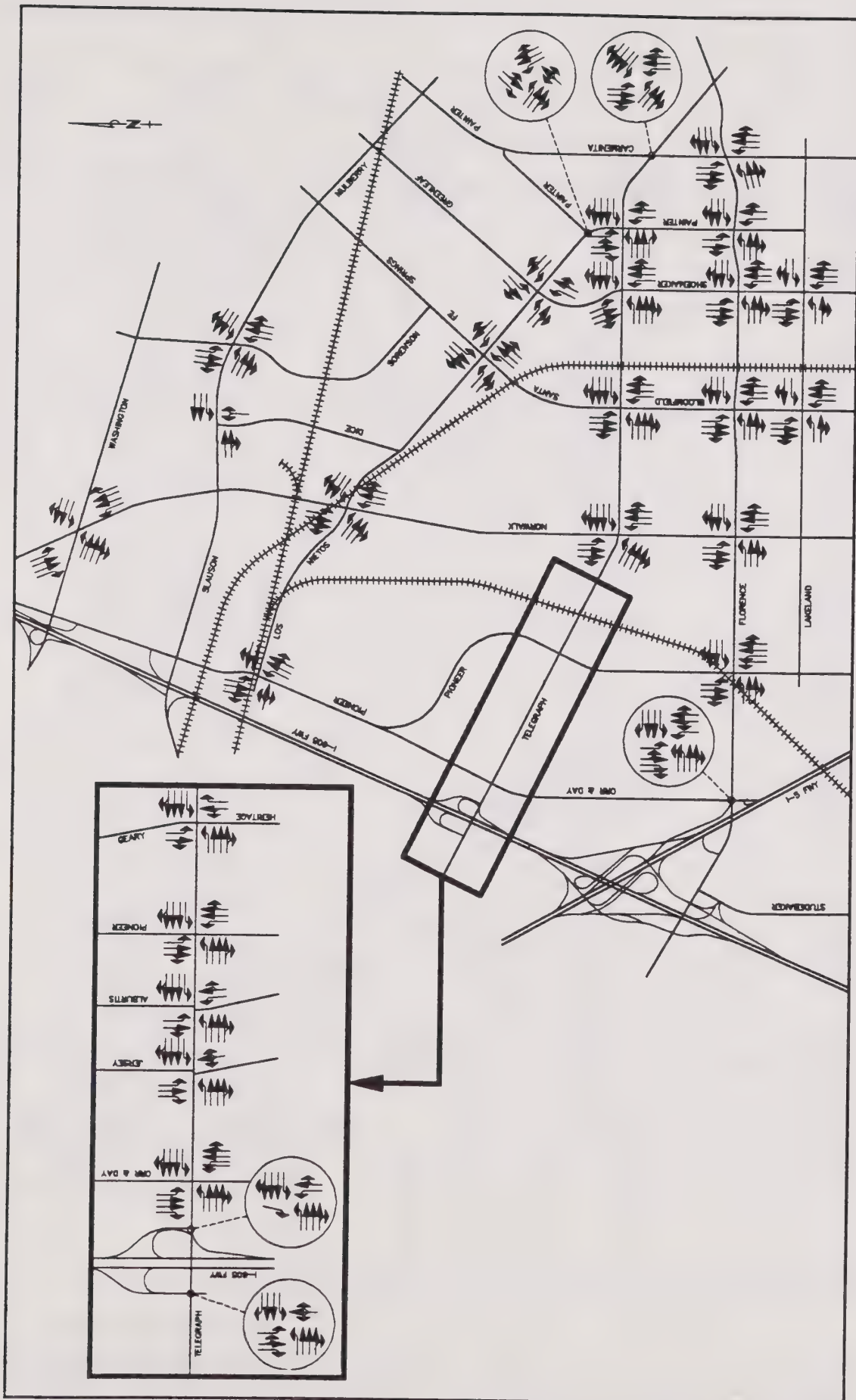


Figure II-5  
EXISTING INTERSECTION LANE  
CONFIGURATIONS (NORTH)

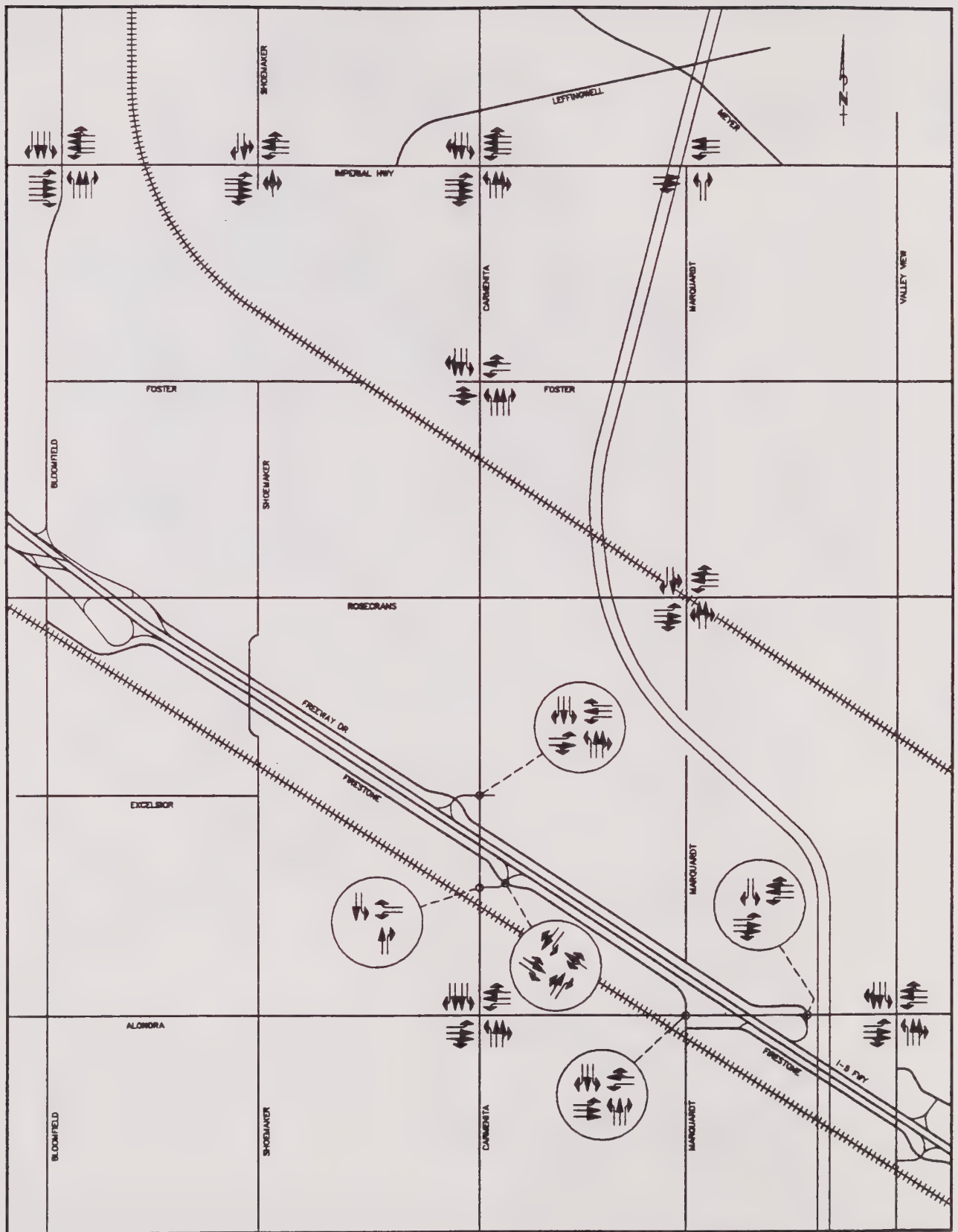


Figure II-6  
EXISTING INTERSECTION LANE  
CONFIGURATIONS (SOUTH)

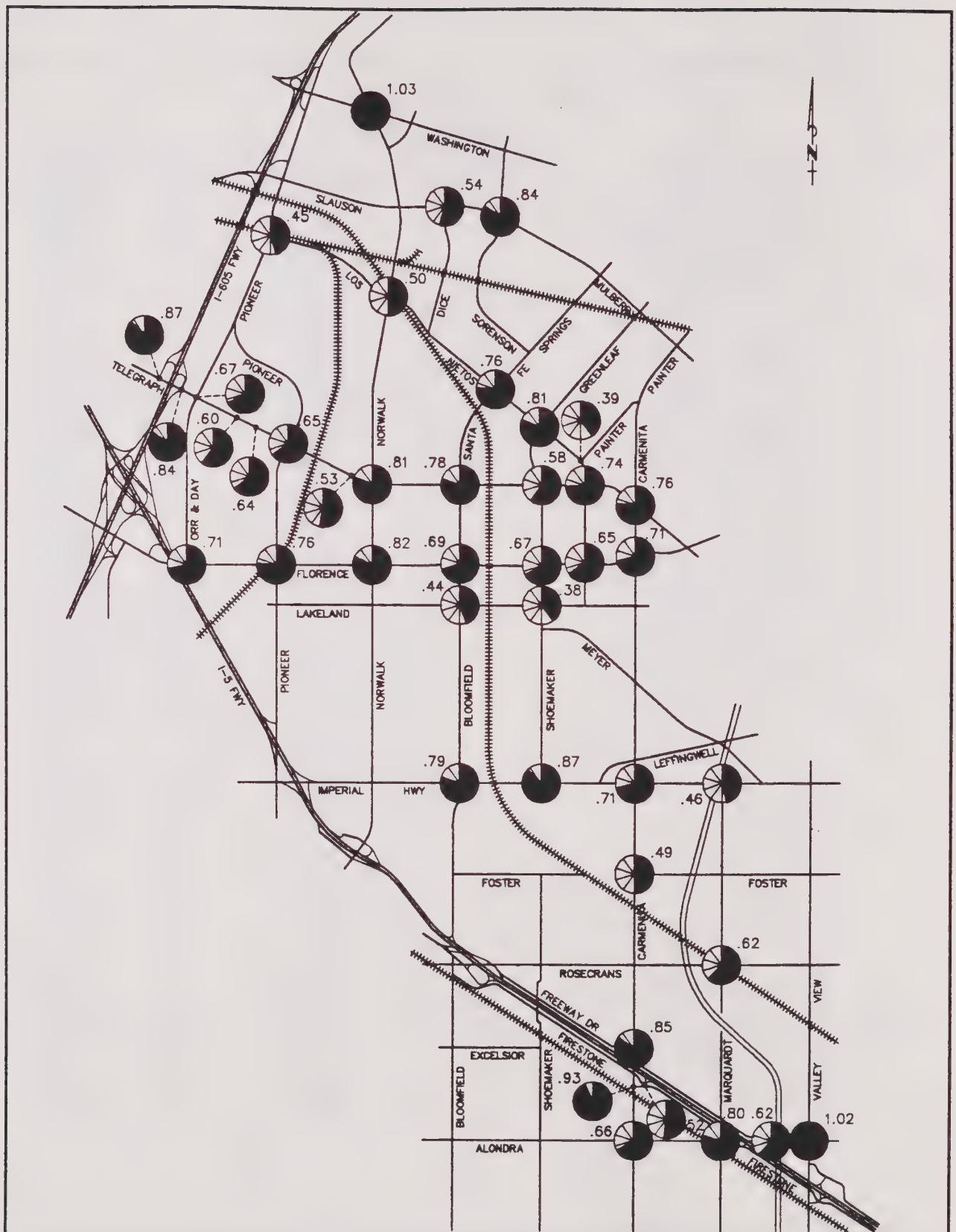
Table II-3  
EXISTING ICU SUMMARY

INTERSECTION	AM	COUNT DATE	PM	COUNT DATE
1. I-605 SB Ramps & Telegraph	.87	4/27/92	.83	4/20/92
2. I-605 NB/Bartley & Telegraph	.84	4/22/92	.69	4/22/92
3. Orr & Day & Telegraph	.67	4/27/92	.70	4/23/92
4. Orr & Day & Florence	.71	4/22/92	.77	4/22/92
5. Jersey & Telegraph	.60	5/7/92	.62	4/22/92
6. Alburta & Telegraph	.64	5/12/92	.58	4/22/92
7. Pioneer & Los Nietos	.45	5/15/92	.48	5/7/92
8. Pioneer & Telegraph	.65	4/28/92	.67	4/27/92
9. Pioneer & Florence	.76	4/24/92	.77	5/11/92
10. Geary & Telegraph	.53	5/20/92	.53	5/13/92
11. Norwalk & Washington	1.03 *	5/13/92	.93 *	5/26/92
12. Norwalk & Los Nietos	.50	5/12/92	.53	4/20/92
13. Norwalk & Telegraph	.81	4/22/92	.82	4/21/92
14. Norwalk & Florence	.82	5/15/92	.89	4/20/92
15. Dice & Slauson	.54	5/14/92	.55	5/21/92
16. Sorenson & Slauson	.84	4/24/92	.76	4/20/92
17. Santa Fe Springs & Los Nietos	.76	10/26/92	.68	4/22/92
18. Santa Fe Springs & Telegraph	.78	5/27/92	.68	4/23/92
19. Bloomfield & Florence	.69	4/22/92	.71	4/20/92
20. Bloomfield & Lakeland	.44	4/23/92	.38	4/21/92
21. Bloomfield & Imperial Hwy	.79	6/1/92	.73	5/18/92
22. Greenleaf & Los Nietos	.81	5/20/92	.69	4/23/92
23. Greenleaf & Telegraph	.58	4/23/92	.58	4/23/92
24. Shoemaker & Florence	.67	4/24/92	.72	4/27/92
25. Shoemaker & Lakeland	.38	5/28/92	.42	4/23/92
26. Shoemaker & Imperial Hwy	.87	4/27/92	.61	4/23/92
27. Painter & Los Nietos	.39	5/27/92	.34	4/27/92
28. Painter & Telegraph	.74	5/28/92	.78	4/23/92
29. Painter & Florence	.65	5/29/92	.61	4/23/92
30. Carmenita & Telegraph	.76	4/23/92	.92 *	5/19/92
31. Carmenita & Florence	.71	4/23/92	.89	5/21/92
32. Carmenita & Imperial Hwy	.71	4/27/92	.81	5/4/92
33. Carmenita & Foster	.49	5/19/92	.47	4/23/92
34. Carmenita & Firestone/I-5 SB Ramps	.93 *	10/15/92	.62	10/15/92
35. Carmenita & Alondra	.66	5/6/92	.65	5/5/92
36. Marquardt & Imperial Hwy	.46	4/27/92	.67	5/5/92
37. Marquardt & Rosecrans	.62	6/1/92	.60	5/18/92
38. Marquardt/Firestone & Alondra	.80	5/18/92	.78	5/11/92
39. I-5 NB Ramps & Alondra	.62	5/15/92	.72	5/18/92
40. Valley View & Alondra	1.02 *	5/8/92	.98 *	5/21/92
41. Carmenita & Excelsior/I-5 NB Ramps	.85	5/13/92	.89	4/29/92
42. I-5 SB Ramps & Firestone	.52	10/15/92	.60	10/15/92

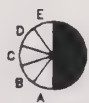
Level of service ranges: .00 - .60 A  
.61 - .70 B  
.71 - .80 C  
.81 - .90 D  
.91 - 1.00 E  
Above 1.00 F

\* Exceeds Level of Service "D"





#### LEGEND



Open portion of circle signifies amount of available capacity.

Figure II-7

EXISTING AM PEAK HOUR ICUs

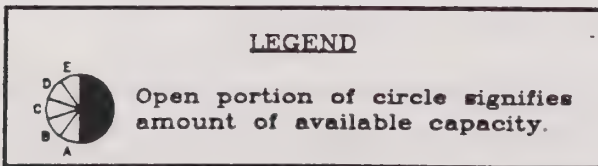
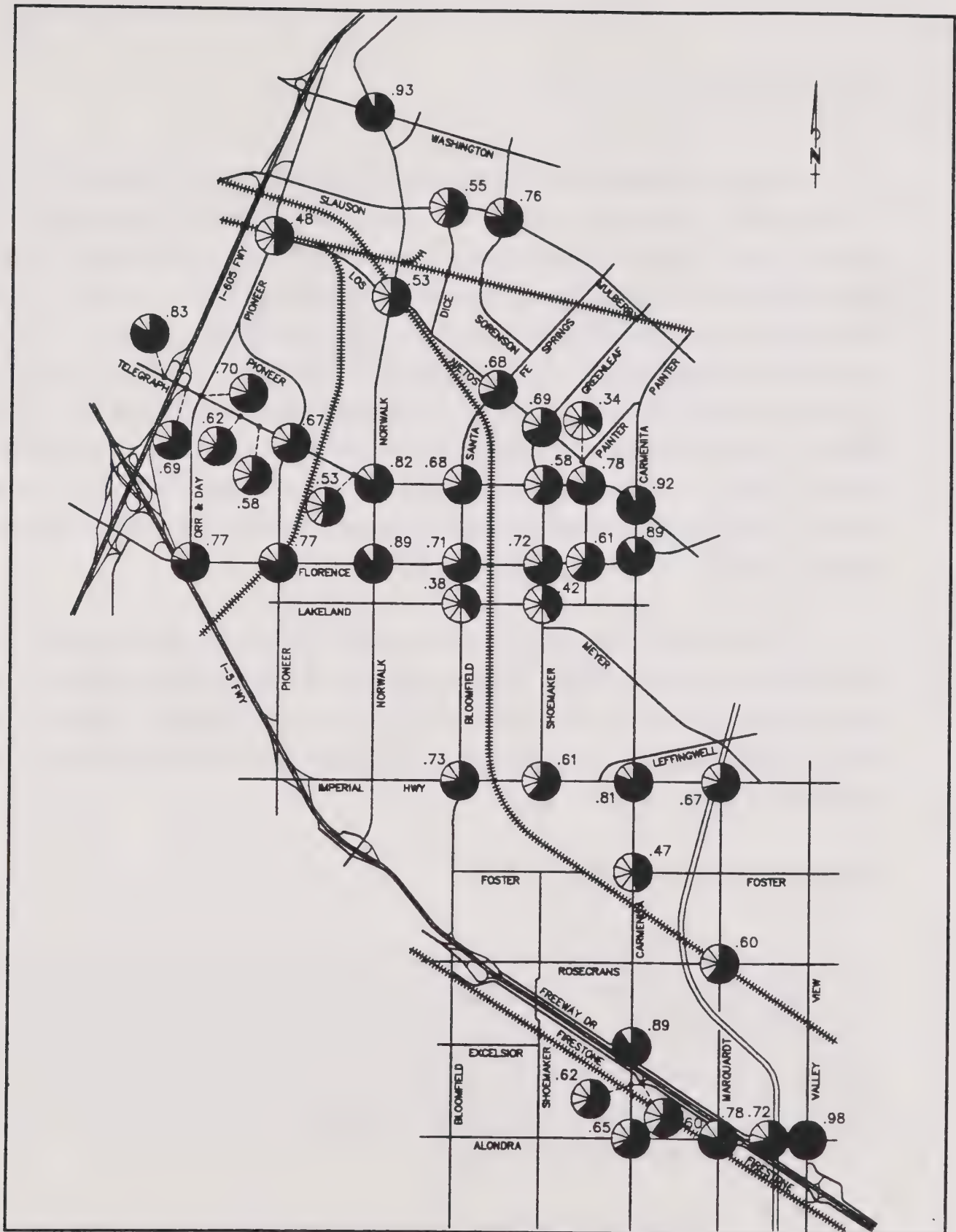


Figure II-8  
EXISTING PM PEAK HOUR ICUs

## CIRCULATION PLAN

The planned roadway system that is contained in the City's current Circulation Element of the General Plan is illustrated in Figure II-9. One roadway connection is being considered for deletion from the Circulation Element. This is the southward extension of Shoemaker Avenue from Imperial Highway to the current termination point at the Santa Fe Railroad. Two future roadway connections are proposed. These are connections of Marquardt Avenue over the I-5 Freeway and the North Fork Coyote Creek. Two sections of Foster Road not shown in the current General Plan but which exist today, are being considered for representation in the General Plan Circulation Element. These are the sections from Carmenita Road to the eastern city limits and from Shoemaker Avenue to Santa Fe Railroad. A roadway which does not exist today and being considered for addition to the Circulation Element would be the connection of these two sections of Foster Road between the Santa Fe Railroad and Carmenita Road.

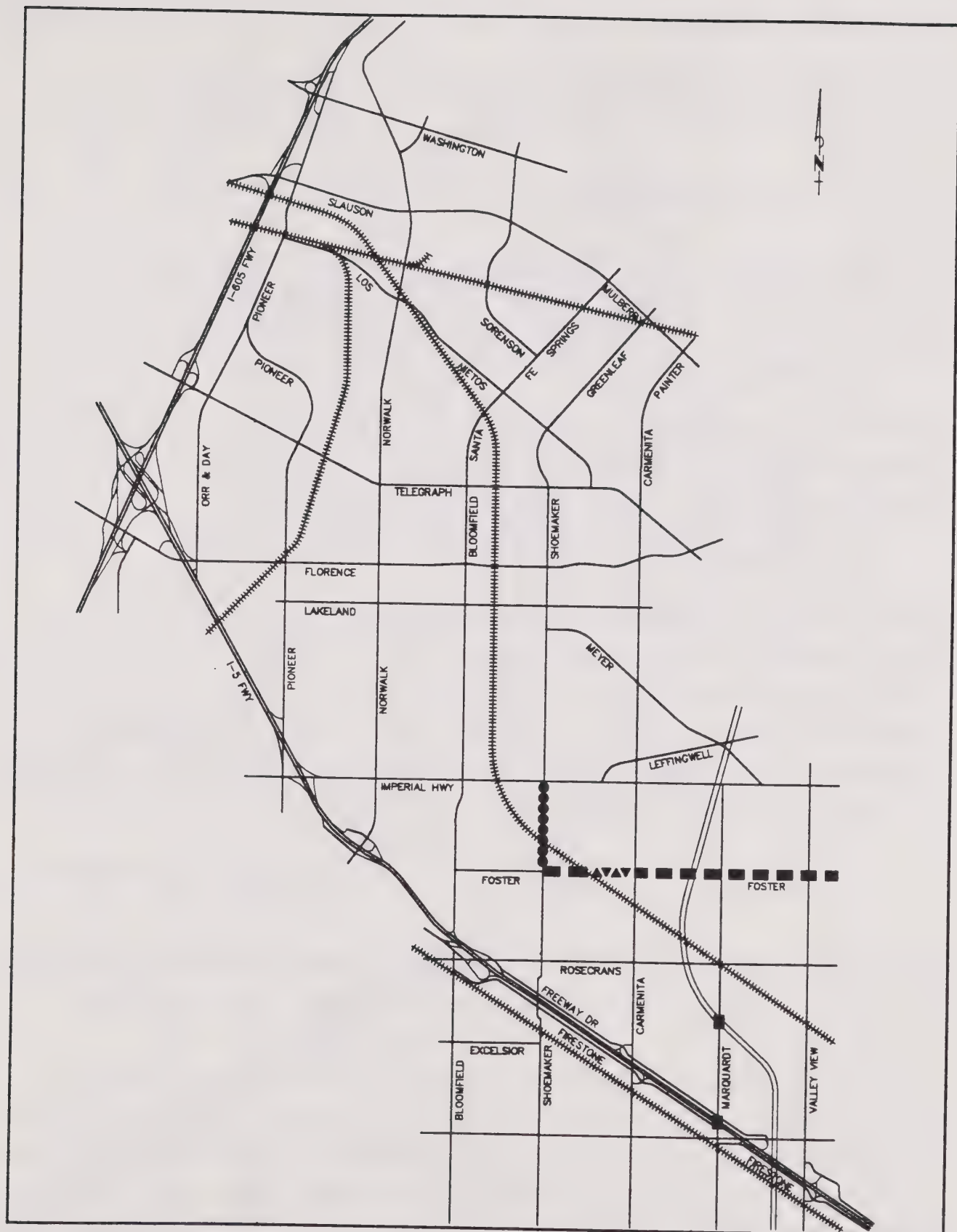
A notable feature in the current General Plan but not shown in this illustration is the Richard M. Nixon Freeway which would have run north and parallel to Washington Boulevard and eventually intersecting with Washington Boulevard, Santa Fe Springs Road, Greenleaf Avenue and Painter Avenue within the city limits. This freeway is no longer being considered for construction and is not discussed further in this report.

## PUBLIC TRANSPORTATION

An existing network of public bus routes providing access to employment centers, shopping and recreational areas within the City is illustrated in Figure II-10. Service is provided by the Rapid Transit District (RTD). East/west service through the city is provided by Route 120 along Imperial Highway, Route 104 along Washington Boulevard, and Route 466 along Rosecrans Avenue. North/south as well as east/west service through the city is provided by (routes below are described in one direction but run in both directions):

1. Route 111 - Telegraph Road west to Norwalk Boulevard, south on Norwalk Boulevard to Florence Avenue, west on Florence Avenue
2. Route 270 - Broadway south to Norwalk Boulevard, south on Norwalk Boulevard to Slauson Avenue, west on Slauson Avenue to Pioneer Boulevard, south on





LEGEND	
—	Existing roadway
●●●●	Roadway being considered for deletion
■ ■	Existing roadway being considered for addition
—▲▲▲	Future roadway connection
▲▲▲	Roadway being considered for addition

Figure II-9  
 BUILDOUT CIRCULATION SYSTEM  
 (CURRENT GENERAL PLAN)

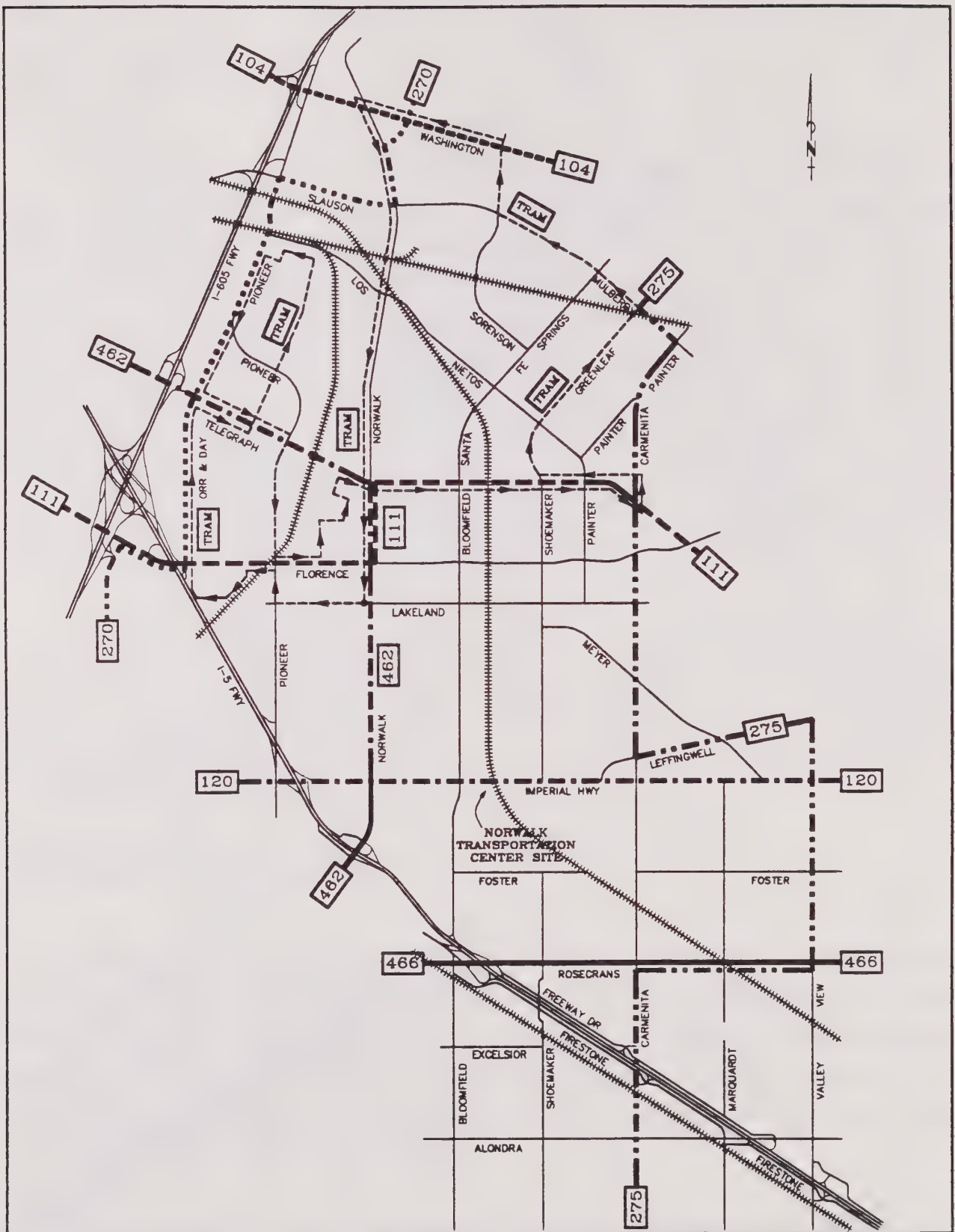


Figure II-10  
EXISTING TRANSIT ROUTES

Pioneer Boulevard to Orr and Day Road, south on Orr and Day Road to Florence Avenue, west on Florence Avenue to Studebaker Road, south on Studebaker Road

3. Route 462 - Telegraph Road east to Norwalk Boulevard, south on Norwalk Boulevard
4. Route 275 - Painter Avenue south to Carmenita Road, south on Carmenita Road to Leffingwell Road, east on Leffingwell Road to Valley View Avenue, south on Valley View Avenue to Rosecrans Avenue, west on Rosecrans Avenue to Carmenita Road, south on Carmenita Road

There is also free of charge to residents, a City sponsored tram service under contract with Norwalk's Municipal Bus System which features stops at the Civic Center and Santa Fe Springs Mall. This tram operates from 7:00 AM to 7:00 PM every weekday excluding holidays starting approximately on the hour near Norwalk Boulevard and Lakeland Road.

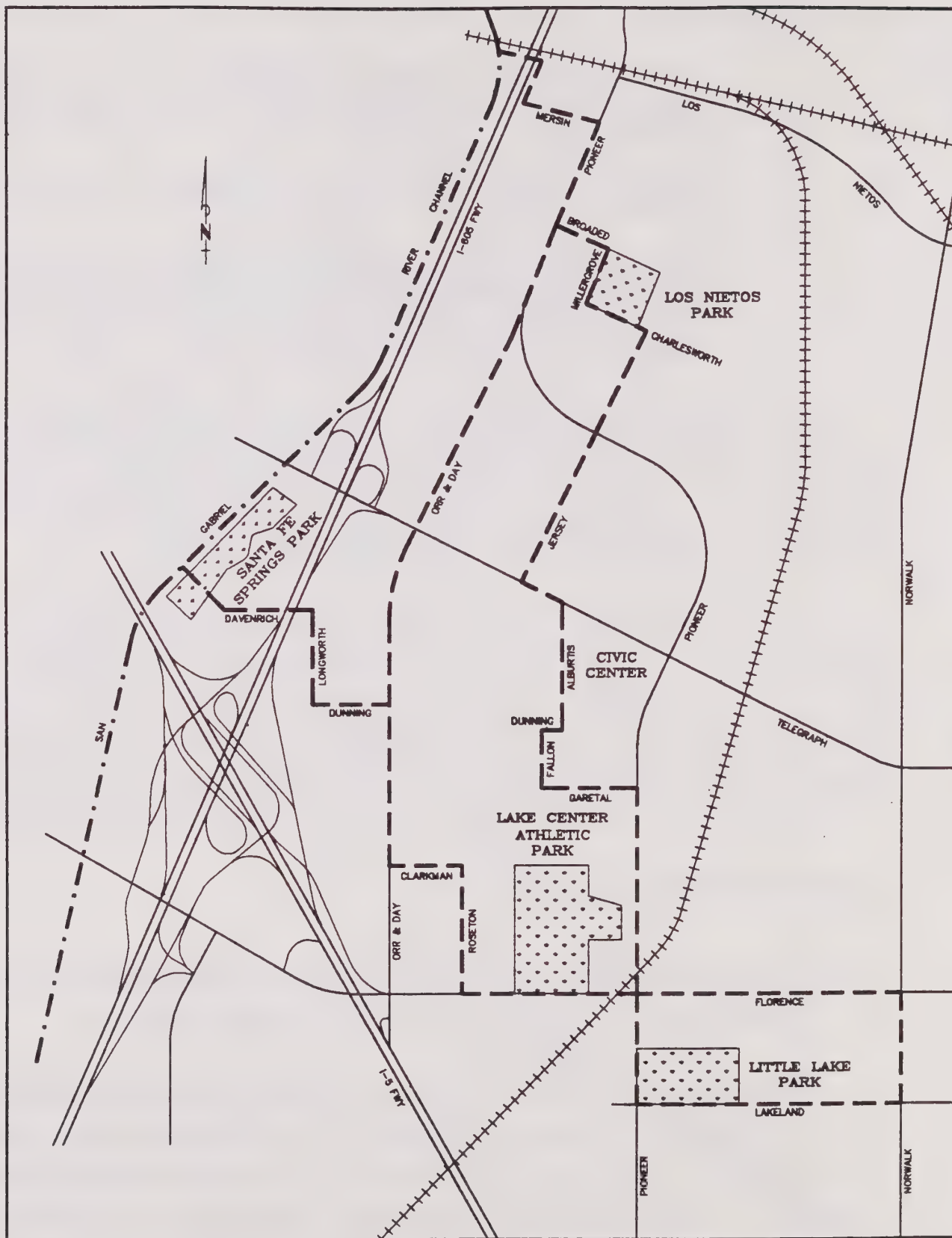
Another notable alternative to automobile travel is rail transportation. The City of Norwalk is proposing a Transportation Center which is along the path of the planned Los Angeles Metro Green Line. This Transportation Center would be located immediately south and west of the City of Santa Fe Springs city limits along Imperial Highway and the Atchison, Topeka and Santa Fe Railroad Line. This would provide future regional travel service to Orange County and downtown Los Angeles to as far as San Diego County to the City of Oceanside according to current plans.

## **BIKEWAYS AND BIKEWAY PLAN**

The existing network of bicycle routes in the City of Santa Fe Springs is illustrated in Figure II-11. A description of typical bikeway classifications is summarized in Table II-4.

A Class I off-road bike path is currently constructed along the San Gabriel River Channel which is just west of the I-605 Freeway. The bikeway on the city streets does not have designated bike lanes, and is therefore shown as a Class III bikeway. It serves four city parks, Los Nietos Park, Little Lake Park, Lake Center Athletic Park and Santa Fe Springs Park, and runs near the Civic Center.





#### LEGEND

- - - Class I (Off-Road) Bike Trail
- - - Class III Bikeway

Figure II-11

EXISTING BIKEWAYS  
AND BIKEWAY PLAN

Table II-4

BIKEWAY CLASSIFICATION DESCRIPTIONS

CLASS I BIKE PATH or BIKE TRAIL

Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians; crossflows with motorized vehicles minimized.

Sizing: Minimum width for Class I (two-way) is eight feet. Desirable width is 10-12 feet. Minimum shoulder width of two feet each side.

Minimum width for Class I (one-way) is five feet. Minimum shoulder width of two feet each side.

CLASS II BIKE LANE

Provides a restricted right-of-way on a roadway's shoulder designated for the exclusive or semi-exclusive use of bicycles with thru travel by motor vehicles or pedestrians prohibited; vehicle parking and crossflows by pedestrians and motorists permitted. Vehicle parking in a Class II bike lane is not desirable and should be discouraged and/or restricted where possible. Additional lane width (12 feet minimum and 13 feet desirable) shall be required if on-street parking is permitted.

Sizing: Typical width of eight feet. A reduction in width to allow for restriping of an existing roadway or for added turning lanes may be permitted. In such cases, a five foot width, or gutter width plus three feet, whichever is greater, is the minimum width.

CLASS III BIKEWAY

Provides for shared use of roadway facilities. These bikeways share the street with motor vehicles or share the sidewalk with pedestrians. In both of these conditions, bicycle use is a secondary function of the pavement.

Access to the San Gabriel River Channel Bike Trail can be reached via Santa Fe Springs Park near Davenrich Street and also Mersin Place near Pioneer Boulevard.

## **RAILROAD LINES**

Three railroad lines traverse the City of Santa Fe Springs; two Southern Pacific Corridors and one Santa Fe Rail Corridor (see Figure II-12). Because of its regional location and proximity to major transportation corridors including rail, the City of Santa Fe Springs development has been predominantly as an industrial community. Rail transportation has served an important role in that regard.

The most heavily used is the Atchison, Topeka and Santa Fe (AT&SF)/AMTRAK Railroad mainline which runs through the city north/south. The daily total of trains that use this line is 35. More than half this number run at least 50 miles per hour. Undercrossings at Carmenita Road, Florence Avenue, Imperial Highway, Telegraph Road and Santa Fe Springs Road have been helpful in an effective circulation system within the city, eliminating delays and safety hazards associated with at-grade railroad crossings.



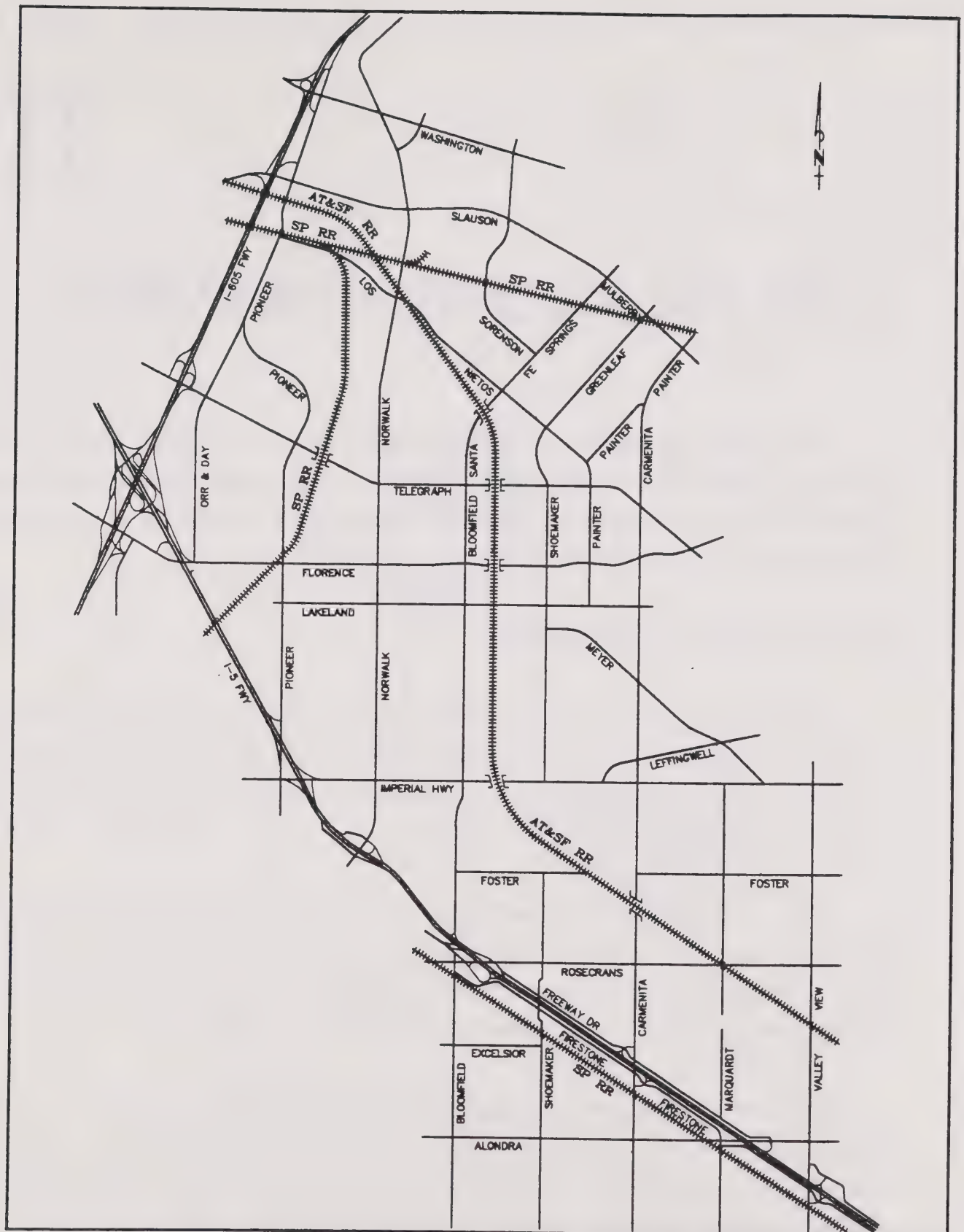


Figure II-12  
RAILROAD LINES

# III

## LAND USE AND TRIP GENERATION

This chapter describes future traffic demands in relation to projected land use and trip generation in Santa Fe Springs and the surrounding area. Future trip generation for the Proposed General Plan is presented, and compared with trip generation estimates for existing land uses. Estimates of future traffic volumes are presented in Chapter IV.

### LAND USE AND TRIP GENERATION

For traffic forecasting purposes, land use is specified according to a set of traffic zones (a traffic zone map is given in Appendix A). Land use for the study area was prepared as part of the General Plan update process, and outside the study area, information was obtained from regional forecast data to assist in the traffic forecasting work.

The traffic generated by a certain type of land use is estimated by applying a representative trip generation rate to the amount of that land use in the area under consideration. The City of Santa Fe Springs uses a set of such trip rates to calculate both peak hour and ADT trips by land use, and these rates and discussion of their derivation can be found in Appendix A.

New development in the City is projected to occur primarily in three special study areas (see Figure III-1). A land use and trip generation summary for these study areas is given in Table III-1. The total ADT trip generation for the buildout alternative of the special study areas is approximately 66,100. The second alternative replaces some industrial and business park land uses in special study area 1 with a 130-acre golf course. The total ADT trip generation of the golf course alternative is approximately 16,200 less than the buildout alternative.

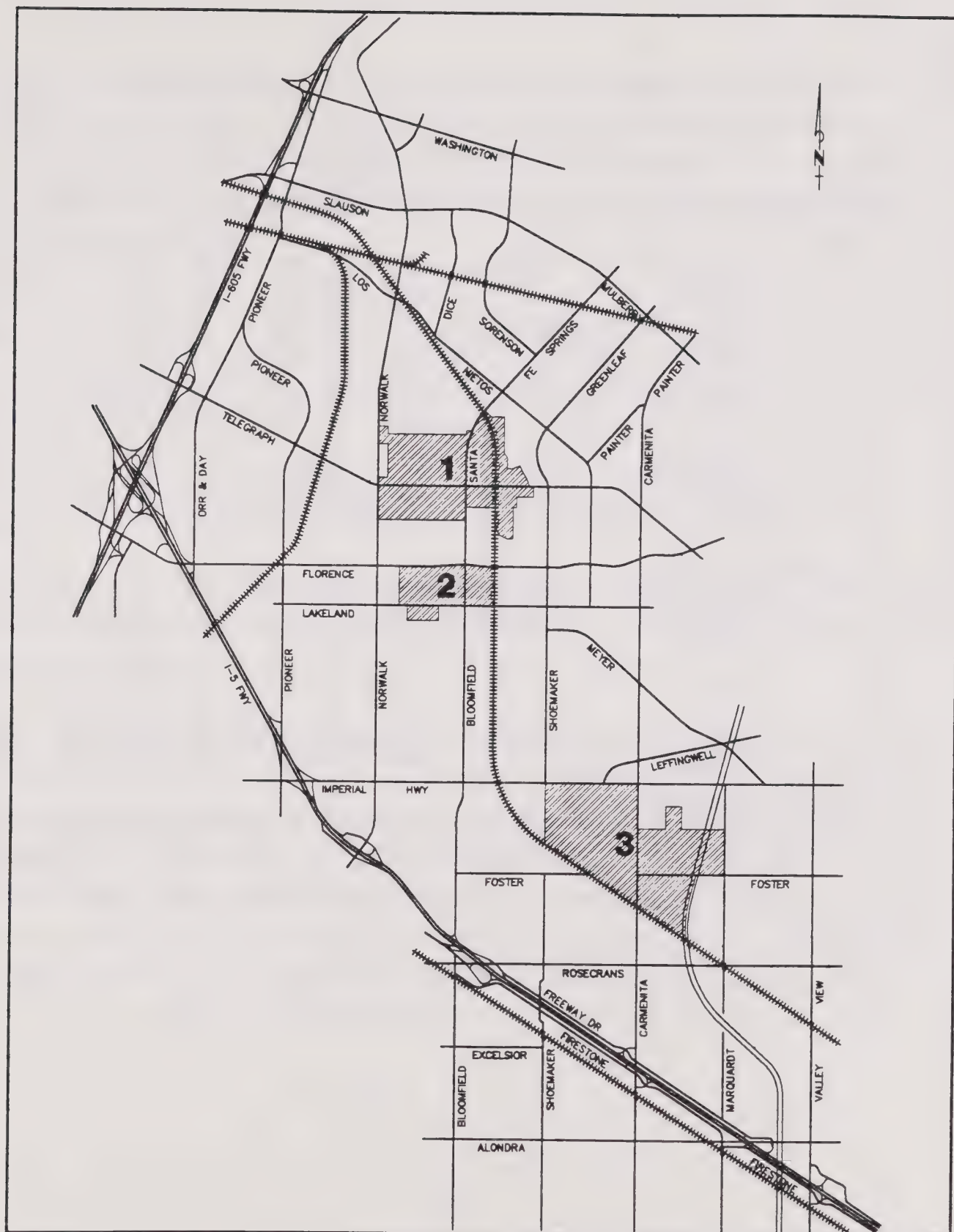


Figure III-1  
SPECIAL STUDY AREAS



Table III-1

## SPECIAL STUDY AREA LAND USE AND TRIP GENERATION

Special			-- AM Peak Hour --			-- PM Peak Hour --			
Study Area	Land Use Type	Units	In	Out	Total	In	Out	Total	ADT
BUILDOUT									
1	5. Light Industrial	1966.74 TSF	1495	315	1810	236	1691	1927	13708
	39. Business Park	975.74 TSF	1347	234	1581	322	1122	1444	14021
	SUB-TOTAL		2842	549	3391	558	2813	3371	27729
2	5. Light Industrial	1173.94 TSF	892	188	1080	141	1010	1151	8182
	SUB-TOTAL		892	188	1080	141	1010	1151	8182
3	5. Light Industrial	2546.09 TSF	1935	407	2342	306	2190	2496	17746
	39. Business Park	869.02 TSF	1199	209	1408	287	999	1286	12488
	SUB-TOTAL		3134	616	3750	593	3189	3782	30234
SPECIAL STUDY AREAS TOTAL									
	5. Light Industrial	5686.77 TSF	4322	909	5231	682	4890	5572	39637
	39. Business Park	1844.76 TSF	2546	442	2988	608	2121	2729	26508
	TOTAL		6868	1351	8219	1290	7011	8301	66145
GOLF COURSE ALTERNATIVE									
1	5. Light Industrial	487.87 TSF	371	78	449	59	420	479	3400
	39. Business Park	487.88 TSF	673	117	790	161	561	722	7011
	40. Golf Course	130.00 ACRE	29	7	36	10	40	50	1083
	SUB-TOTAL		1073	202	1275	230	1021	1251	11494
2	5. Light Industrial	1173.94 TSF	892	188	1080	141	1010	1151	8182
	SUB-TOTAL		892	188	1080	141	1010	1151	8182
3	5. Light Industrial	2546.09 TSF	1935	407	2342	306	2190	2496	17746
	39. Business Park	869.02 TSF	1199	209	1408	287	999	1286	12488
	SUB-TOTAL		3134	616	3750	593	3189	3782	30234
SPECIAL STUDY AREAS TOTAL									
	5. Light Industrial	4207.90 TSF	3198	674	3872	505	3620	4125	29330
	39. Business Park	1356.90 TSF	1872	326	2198	447	1559	2006	19499
	40. Golf Course	130.00 ACRE	28	6	34	10	40	50	1083
	TOTAL		5098	1006	6104	962	5219	6181	49912

Notes: 1. TSF - Thousand square feet of building floor area  
 2. Refer to Figure III-1 for special study area locations

For the traffic forecasts used in this general plan traffic analysis, the land use data for the special study areas has been used in conjunction with ambient growth for the remainder of the City. The latter accounts for future development occurring on currently vacant or underutilized parcels, and represents a five percent increase in trip generation. A summary of the combined increase in trip generation is as follows:

	EXISTING	FUTURE	INCREASE
Special Study Areas	10,152	66,145	55,993
Remainder of City	423,370	444,539	21,169
Total	433,522	510,684	77,162

Hence, the overall increase represents around 18 percent additional traffic on the roadway system. Under the golf course alternative, the overall increase would be 60,929 average trips, an increase of 14 percent.

Future growth in this area as portrayed by regional demographic projections can be seen from the information listed in Table III-2 (the areas used to summarize the data in the table can be seen in Figure III-2). Prepared by the Southern California Association of Governments (SCAG) these projections of dwelling units and employment are part of the regional forecasts prepared by SCAG every four years. As can be seen, they imply an increase in trip generation in this area of around 13 percent. Hence, there is a general consistency between this regional data and the land use projections used in the General Plan analysis.

Table III-2

## REGIONAL DEMOGRAPHIC PROJECTIONS

SCAG AREA	— 1990 —			— 2010 —			— INCREASE —		
	DU	EMP	ADT	DU	EMP	ADT	DU	EMP	ADT
723	1,917	17,421	79,914	2,192	17,466	82,025	275	45	2,111
729	2,406	15,159	77,006	2,599	16,806	84,162	193	1,647	7,156
731	762	11,954	53,220	1,113	13,503	61,771	351	1,549	8,551
738	2,830	1,294	32,733	3,985	3,248	51,282	1,155	1,954	18,549
749	40	17,736	68,466	12	19,287	73,848	-28	1,551	5,382
TOTAL	7,955	63,564	311,339	9,901	70,310	353,088	1,946	6,746	41,749

Notes: 1. DU = Dwelling Unit  
 EMP = Employee  
 ADT = Average Daily Trips

2. Refer to Figure III-2 for area depicted (outlines SCAG traffic analysis zones)

Source: SCAG = Southern California Association of Governments



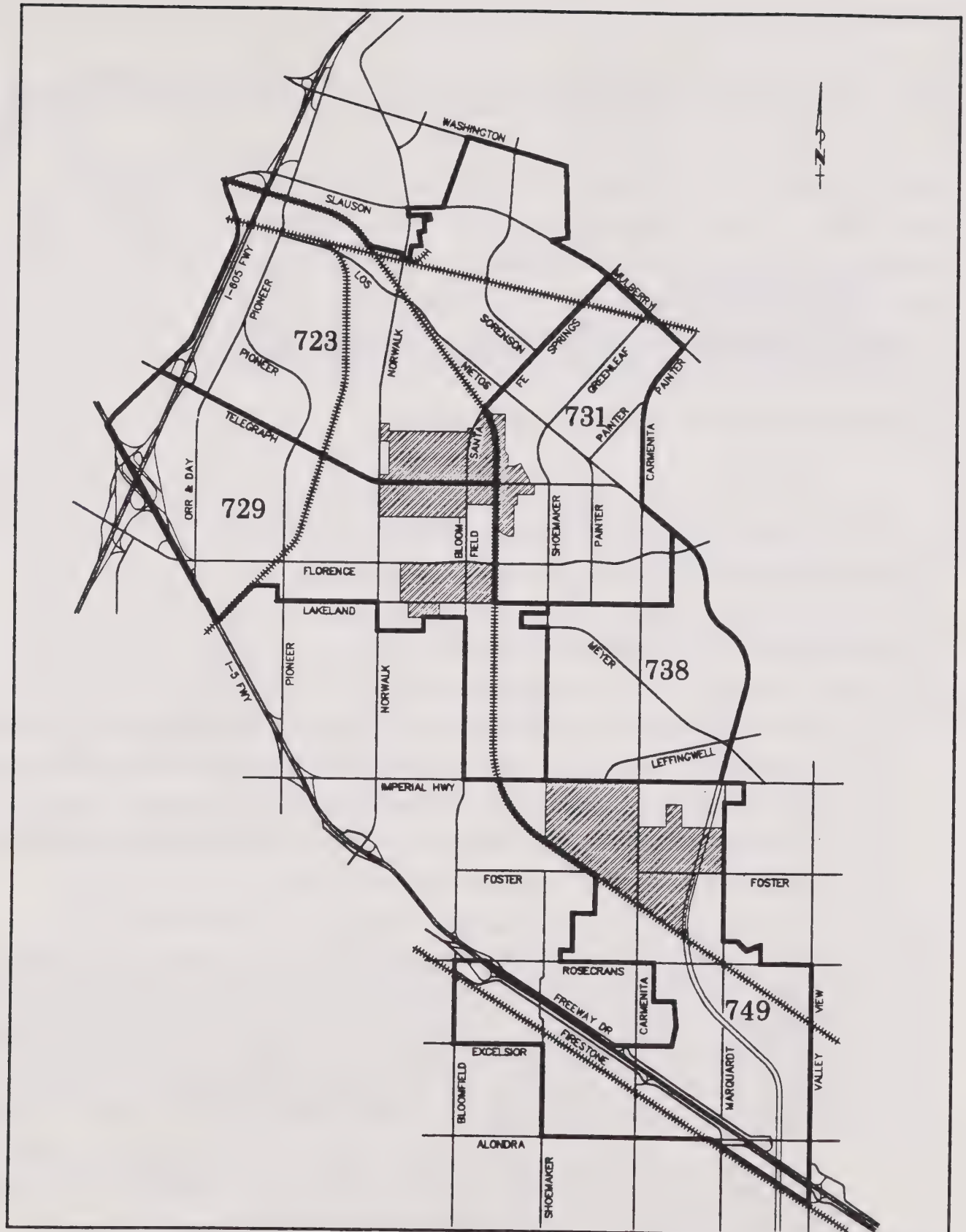


Figure III-2  
SCAG TRAFFIC ANALYSIS  
ZONE SYSTEM

## ARTERIAL HIGHWAY SYSTEM ANALYSIS

---

This chapter examines the City's arterial highway system in relation to the proposed General Plan land uses. Traffic forecasts are presented, deficiencies are identified, and potential improvements noted which could alleviate those deficiencies.

### ARTERIAL HIGHWAY CLASSIFICATIONS

The arterial roadway system in Santa Fe Springs is defined using a classification system which describes a hierarchy of facility types. The categories of roadways included in this classification system differentiate the size, function and capacity of the roadway links for each type of roadway. There are three basic categories in the hierarchy, ranging from "major" with the highest capacity to "local" streets with the lowest capacity, and these can be summarized as follows:

Major - A four- to six-lane divided roadway with limited or no on-street parking, with a typical right-of-way width of 100-120 feet and a curb-to-curb pavement width of 80 to 104 feet. Major arterials typically carry a significant volume of regional traffic. When the traffic volumes warrant a six-lane major arterial highway in areas where a full 120 feet of right-of-way is not feasible due to existing structures or topography, a lesser right-of-way (e.g., 100 feet) can be used to accommodate a six-lane facility. Otherwise, major arterials within a 100 foot right-of-way and 80 feet curb-to-curb would be constructed with four lanes and a median.

Secondary - A two- to four-lane undivided roadway, with a typical right-of-way width of 80 feet and a curb-to-curb pavement width of 64 feet. These roadways serve as collectors, distributing traffic between local streets, and major arterials.

Local - A two-lane undivided roadway with a typical right-of-way width of 60 feet and a pavement width of 36 to 40 feet. This category of roadway is designed to provide access to

individual parcels in the City. It is generally not included in the Circulation Element unless special circumstances require such inclusion for purposes of system continuity.

Figure IV-1 shows schematic cross sections of each category of arterial roadway. These sections represent desirable standards, but variation in right-of-way width and specific road improvements will occur in certain cases due to physical constraints and/or right-of-way limitations. In particular, the median width in six-lane and four-lane roadways will vary according to the area being served, the available right-of-way, and turn lane requirements. Hence, any of the arterial classifications may deviate from the standards where physical constraints exist or where preservation of community character dictates special treatment. Bikeway facilities are another factor which affects the specific standards applied for various facilities.

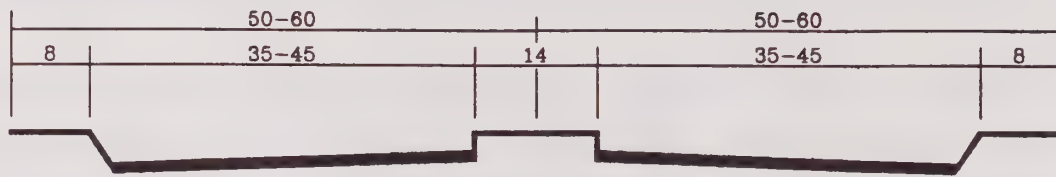
The desirable goal for every classified street section is that it carry the designed volume of traffic at the desired level of service. Within this requirement, descriptions of width and facilities are offered as basic guidelines and as noted above, variation in design is expected, depending on different community design characteristics. Different optional facilities are also expected (on-street parking, sidewalks versus pathways, bicycle lanes or paths, extra parkway or median landscape treatment, etc.). Another design consideration is the need to provide for the capacity requirements as specified in the County Master Plan of Arterial Highways.

## **FUTURE TRAFFIC VOLUMES**

Average daily traffic (ADT) volumes on the analysis area circulation system were estimated for the Proposed General Plan land uses under both the Buildout and Golf Course alternatives for the special study areas. These are illustrated in Figures IV-2 and IV-3 together with the corresponding volume/capacity (V/C) ratios. Referred to as "Future" volumes, they are based on full buildout of the City of Santa Fe Springs General Plan land uses as quantified in the previous chapter. As noted in Chapter I, derivation of these forecast volumes was the Santa Fe Springs Traffic Model (SFSTM).

The ADT levels of service for the forecast volumes are summarized in Table IV-1. Also shown here are locations where the performance criteria are not met. It should be noted that the circulation system depicted here has no improvements beyond existing. Thus the V/C ratios represent

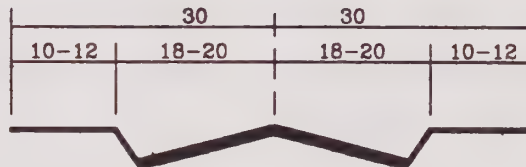




Major Arterial 100'-120' R/W



Secondary Arterial 80' R/W



Local Street 60' R/W

Figure IV-1  
TYPICAL CROSS-SECTIONS

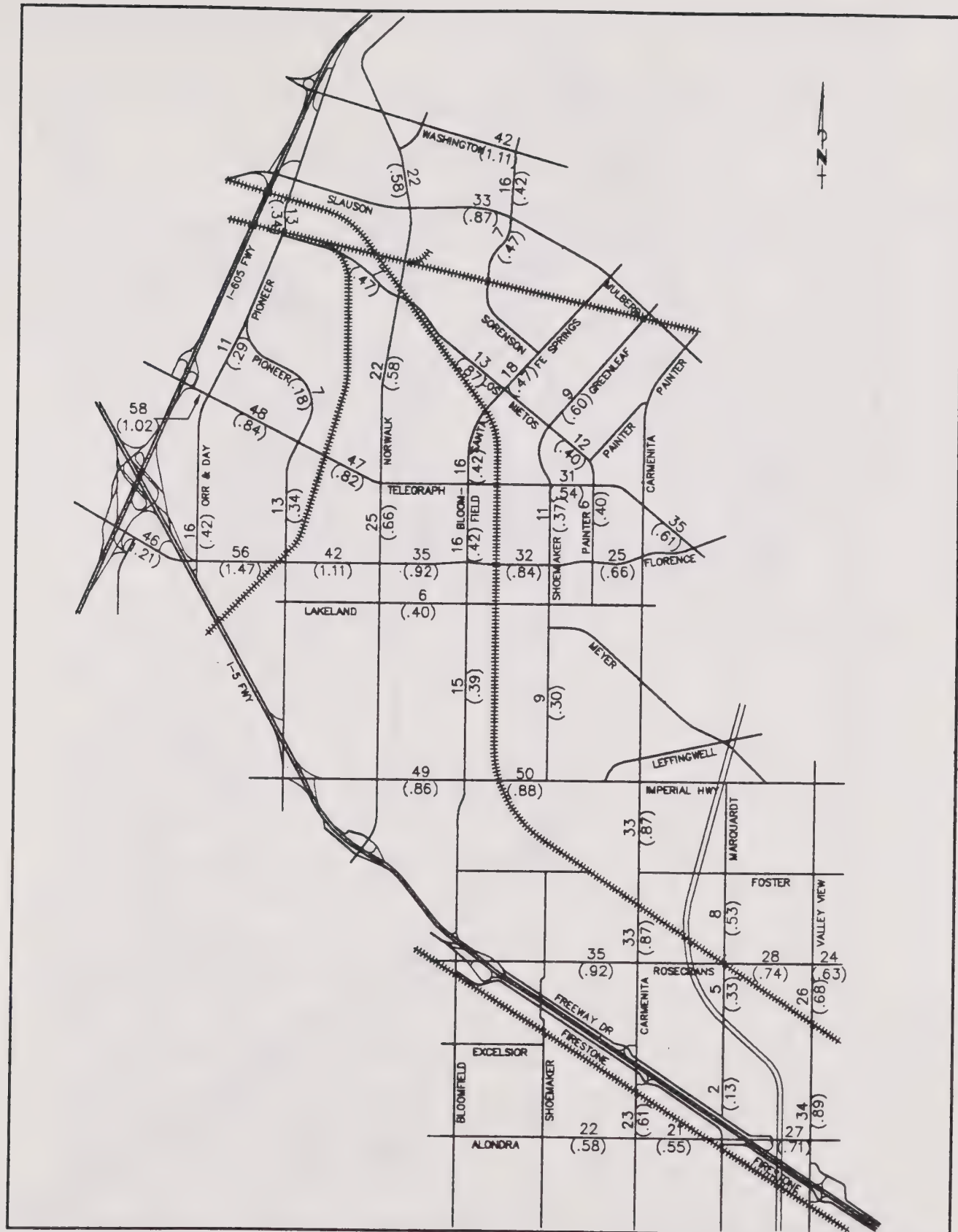


Figure IV-2  
FUTURE ADT VOLUMES (000s)  
- BUILDOUT

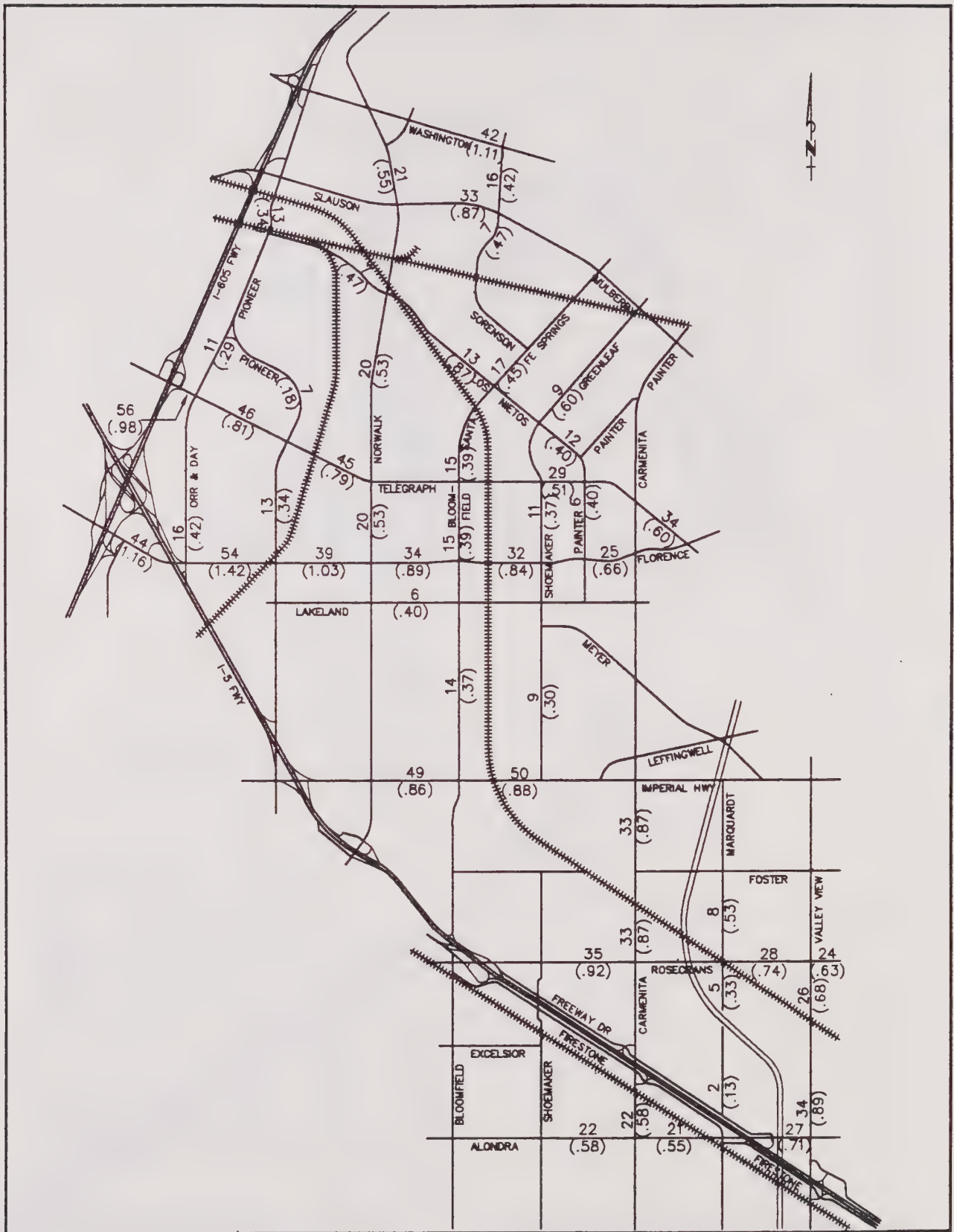


Figure IV-3  
FUTURE ADT VOLUMES (000s)  
- GOLF COURSE ALTERNATIVE



Table IV-1

FUTURE LEVELS OF SERVICE - ADT LINK VOLUMES  
(Alphabetically by street then from North - South, West - East)

ROADWAY SEGMENT	CAPACITY	--- BUILDOUT ---			- GOLF COURSE ALT -		
		VOL	V/C	LOS	VOL	V/C	LOS
Alondra E/O Shoemaker	38	22	.58	A	22	.58	A
Alondra E/O Carmenita	38	21	.55	A	21	.55	A
Alondra W/O Valley View	38	27	.71	C	27	.71	C
Bloomfield N/O Florence	38	16	.42	A	15	.39	A
Bloomfield N/O Imperial Hwy	38	15	.39	A	14	.37	A
Carmenita S/O Imperial Hwy	38	33	.87	D	33	.87	D
Carmenita N/O Rosecrans	38	33	.87	D	33	.87	D
Carmenita N/O Alondra	38	23	.61	B	22	.58	A
Florence E/O Studebaker	38	46	1.21	F*	44	1.16	F*
Florence W/O Pioneer	38	56	1.47	F*	54	1.42	F*
Florence E/O Pioneer	38	42	1.11	F*	39	1.03	F*
Florence E/O Norwalk	38	35	.92	E*	34	.89	D
Florence E/O Bloomfield	38	32	.84	D	32	.84	D
Florence W/O Carmenita	38	25	.66	B	25	.66	B
Greenleaf N/O Los Nietos	15	9	.60	A	9	.60	A
Imperial Hwy E/O Norwalk	57	49	.86	D	49	.86	D
Imperial Hwy W/O Shoemaker	57	50	.88	D	50	.88	D
Lakeland W/O Bloomfield	15	6	.40	A	6	.40	A
Los Nietos W/O Norwalk	15	7	.47	A	7	.47	A
Los Nietos W/O Santa Fe Spgs	15	13	.87	D*	13	.87	D*
Los Nietos W/O Painter	30	12	.40	A	12	.40	A
Marquardt N/O Rosecrans	15	8	.53	A	8	.53	A
Marquardt S/O Rosecrans	15	5	.33	A	5	.33	A
Marquardt N/O I-5	15	2	.13	A	2	.13	A
Norwalk N/O Slauson	38	22	.58	A	21	.55	A
Norwalk S/O Los Nietos	38	22	.58	A	20	.53	A
Norwalk N/O Florence	38	25	.66	B	20	.53	A
Orr & Day N/O Telegraph	38	11	.29	A	11	.29	A
Orr & Day N/O Florence	38	16	.42	A	16	.42	A
Painter N/O Florence	15	6	.40	A	6	.40	A
Pioneer N/O Los Nietos	38	13	.34	A	13	.34	A
Pioneer N/O Telegraph	38	7	.18	A	7	.18	A
Pioneer N/O Florence	38	13	.34	A	13	.34	A
Rosecrans W/O Carmenita	38	35	.92	E*	35	.92	E*
Rosecrans W/O Valley View	38	28	.74	C	28	.74	C
Rosecrans E/O Valley View	38	24	.63	B	24	.63	B
Santa Fe Spgs N/O Los Nietos	38	18	.47	A	17	.45	A
Santa Fe Spgs N/O Telegraph	38	16	.42	A	15	.39	A
Shoemaker N/O Florence	30	11	.37	A	11	.37	A
Shoemaker N/O Imperial Hwy	30	9	.30	A	9	.30	A

(Continued)

Table IV-1 (cont)  
 FUTURE LEVELS OF SERVICE - ADT LINK VOLUMES  
 (Alphabetically by street then from North - South, West - East)

ROADWAY SEGMENT	CAPACITY	--- BUILDOUT ---			- GOLF COURSE ALT -		
		VOL	V/C	LOS	VOL	V/C	LOS
Slauson W/O Sorenson	38	33	.87	D	33	.87	D
Sorenson S/O Washington	38	16	.42	A	16	.42	A
Sorenson S/O Slauson	15	7	.47	A	7	.47	A
Telegraph W/O Orr & Day	57	58	1.02	F*	56	.98	E
Telegraph W/O Pioneer	57	48	.84	D	46	.81	D
Telegraph E/O Pioneer	57	47	.82	D	45	.79	C
Telegraph W/O Painter	57	31	.54	A	29	.51	A
Telegraph E/O Carmenita	57	35	.61	B	34	.60	A
Valley View S/O Rosecrans	38	26	.68	B	26	.68	B
Valley View W/O Alondra	38	34	.89	D	34	.89	D
Washington W/O Sorenson	38	42	1.11	F*	42	1.11	F*

Level of service ranges: .00 - .60 A  
 .61 - .70 B  
 .71 - .80 C  
 .81 - .90 D  
 .91 - 1.00 E  
 Above 1.00 F

\* Indicates performance standard exceeded  
 Note: All numbers are in thousands

a worst case scenario. Potential improvements for deficient locations are discussed later in this chapter.

Peak hour intersection capacity utilization (ICU) values are listed in Table IV-2. Also shown here are locations where the performance criteria thresholds are exceeded.

## PROPOSED CIRCULATION ELEMENT ARTERIAL HIGHWAY SYSTEM

To accommodate the estimated future traffic on the arterial highway system, some changes are proposed to the current arterial highway plan presented earlier. The proposed arterial highway system includes the three basic facility types noted in this chapter, and the standard cross-sections are to be retained as the desirable standards for each facility.

The highway network proposed for the Circulation Element is illustrated in Figure IV-4. Shown here are the Major arterials and Secondary arterials. Changes from existing conditions can be summarized as follows:

<u>LINK</u>	<u>EXISTING CIRCULATION ELEMENT</u>	<u>PROPOSED CIRCULATION ELEMENT</u>
Florence Avenue Studebaker to Bloomfield	Four-lane Major	Six-lane Major
Rosecrans Avenue Shoemaker to Valley View	Four-lane Major	Six-lane Major
Imperial Highway Carmenita to Marquardt	Four-lane Major	Six-lane Major
Shoemaker Avenue Imperial Hwy to Foster	Four-lane Secondary	Delete

Foster Road is not proposed for addition to the Circulation Element at this time. A connection between Shoemaker Avenue and Carmenita Road would require a grade-separated crossing of the railroad, and the feasibility of such a crossing would need to be investigated before adding this roadway to the Circulation Element. It is recommended that this issue be evaluated at the time when Special Study Area 3 is being considered for development.



Table IV-2  
ICU SUMMARY

INTERSECTION	EXISTING		BUILDOUT		GOLF COURSE ALTERNATIVE	
	AM	PM	AM	PM	AM	PM
1. I-605 SB Ramps & Telegraph	.87	.83	.96 *	1.08 *	.95 *	.94 *
2. I-605 NB/Bartley & Telegraph	.84	.69	.87	.85	.86	.78
3. Orr & Day & Telegraph	.67	.70	.71	.84	.70	.77
4. Orr & Day & Florence	.71	.77	.89	.99 *	.75	.93 *
5. Jersey & Telegraph	.60	.62	.64	.76	.63	.69
6. Alburts & Telegraph	.64	.58	.65	.71	.64	.64
7. Pioneer & Los Nietos	.45	.48	.48	.52	.47	.52
8. Pioneer & Telegraph	.65	.67	.68	.76	.67	.69
9. Pioneer & Florence	.76	.77	.97 *	.93 *	.84	.88
10. Geary & Telegraph	.53	.53	.55	.60	.54	.56
11. Norwalk & Washington	1.03 *	.93 *	1.07 *	1.01 *	1.05 *	.97 *
12. Norwalk & Los Nietos	.50	.53	.60	.69	.59	.63
13. Norwalk & Telegraph	.81	.82	.99 *	1.13 *	.86	.92 *
14. Norwalk & Florence	.82	.89	1.29 *	1.15 *	.94 *	1.02 *
15. Dice & Slauson	.54	.55	.55	.56	.55	.56
16. Sorenson & Slauson	.84	.76	.86	.80	.86	.80
17. Sta Fe Springs & Los Nietos	.76	.68	.80	.78	.80	.77
18. Santa Fe Springs & Telegraph	.78	.68	.89	.87	.84	.82
19. Bloomfield & Florence	.69	.71	.92 *	.96 *	.89	.94 *
20. Bloomfield & Lakeland	.44	.38	.55	.49	.53	.47
21. Bloomfield & Imperial Hwy	.79	.73	.94 *	.90	.92 *	.89
22. Greenleaf & Los Nietos	.81	.69	.83	.73	.83	.73
23. Greenleaf & Telegraph	.58	.58	.66	.66	.62	.61
24. Shoemaker & Florence	.67	.72	.77	.81	.73	.79
25. Shoemaker & Lakeland	.38	.42	.41	.45	.40	.44
26. Shoemaker & Imperial Hwy	.87	.61	.94 *	.99 *	.94 *	.99 *
27. Painter & Los Nietos	.39	.34	.41	.36	.41	.36
28. Painter & Telegraph	.74	.78	.81	.90	.77	.84
29. Painter & Florence	.65	.61	.72	.67	.70	.67
30. Carmenita & Telegraph	.76	.92 *	.93 *	1.07 *	.88	1.02 *
31. Carmenita & Florence	.71	.89	.88	1.05 *	.83	1.04 *
32. Carmenita & Imperial Hwy	.71	.81	1.11 *	1.15 *	1.12 *	1.14 *
33. Carmenita & Foster	.49	.47	.80	.69	.80	.69
34. Carmenita & Firestone/I-5 SB Ramps	.93 *	.62	1.07 *	1.03 *	1.06 *	1.03 *
35. Carmenita & Alondra	.66	.65	.72	.69	.71	.69

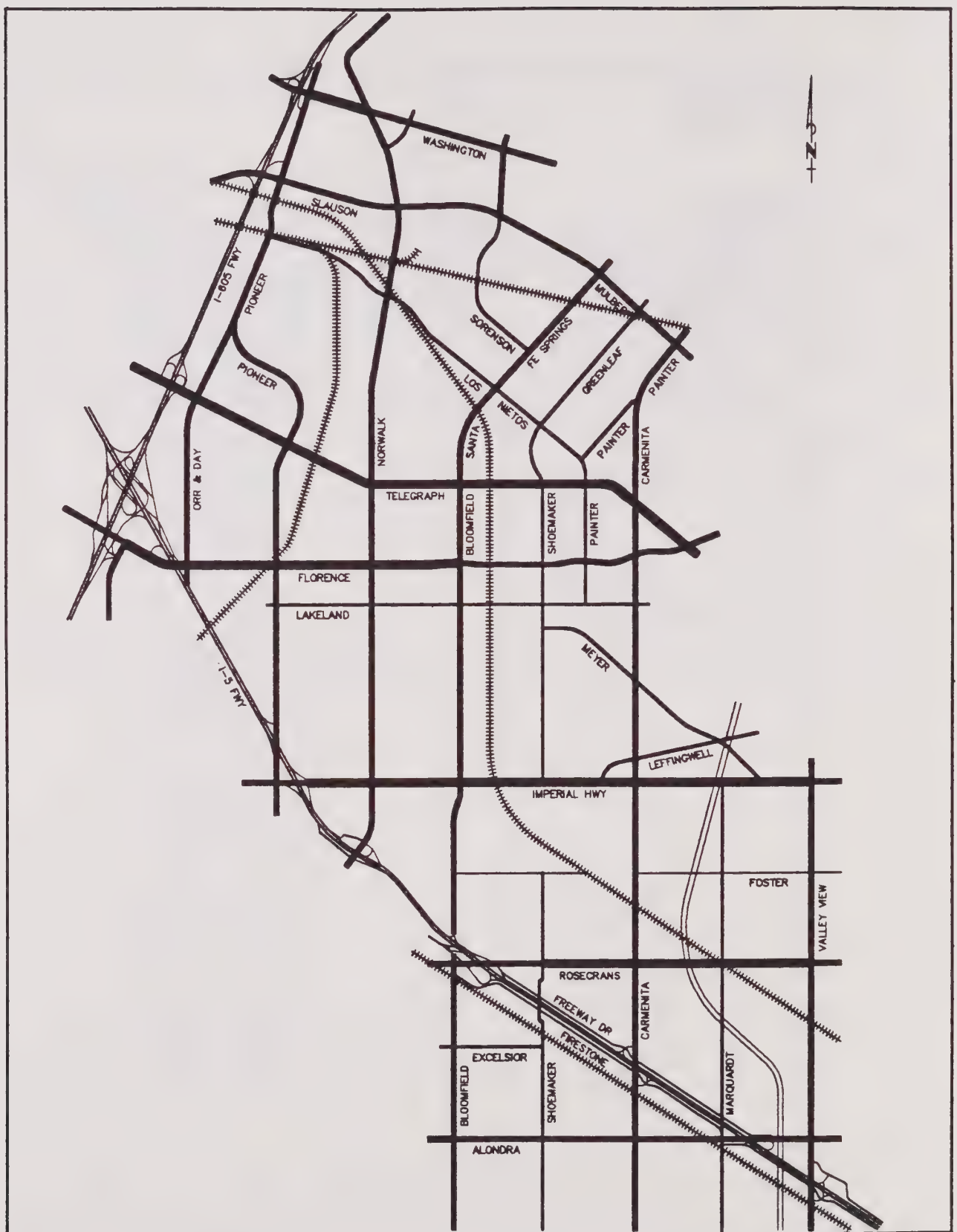
(Continued)

Table IV-2 (cont)  
ICU SUMMARY

INTERSECTION	EXISTING		BUILDOUT		GOLF COURSE ALTERNATIVE	
	AM	PM	AM	PM	AM	PM
36. Marquardt & Imperial Hwy	.46	.67	.62	.83	.61	.83
37. Marquardt & Rosecrans	.62	.60	.69	.67	.69	.67
38. Marquardt & Alondra	.80	.78	.83	.79	.83	.79
39. I-5 NB Ramps & Alondra	.62	.72	.63	.73	.63	.73
40. Valley View & Alondra	1.02 *	.98 *	1.05 *	1.02 *	1.05 *	1.02 *
41. Carmenita & Excelsior/I-5 NB	.85	.89	1.31 *	1.44 *	1.30 *	1.44 *
42. I-5 SB Ramps & Firestone	.52	.60	.55	.99 *	.55	.98 *

Level of service ranges: .00 - .60 A  
.61 - .70 B  
.71 - .80 C  
.81 - .90 D  
.91 - 1.00 E  
Above 1.00 F

\* Exceeds level of service "D"



#### LEGEND

- MAJOR (6-lane divided)
- MAJOR (4-lane divided)
- SECONDARY (2 to 4-lane undivided)
- LOCAL (2-lane undivided)

Figure IV-4

#### PROPOSED ARTERIAL HIGHWAY SYSTEM



## RAILROAD GRADE SEPARATIONS

Certain arterials currently have at-grade crossings of the railroads, and would achieve both safety and capacity benefits from future grade separation. Arterials which would benefit from this are Florence Avenue and Valley View Avenue.

## MITIGATION PROGRAM

Table IV-3 summarizes a mitigation program for arterial and intersection location deficiencies within the City of Santa Fe Springs. The land use alternative in need of the identified mitigation is also noted in this table.

This table also lists three special transportation improvement areas (see Figure IV-5 for areas depicted). These are parts of the circulation system which require future improvements, but which involve other jurisdictions such as Caltrans. The mitigation measures shown in this table are examples only, and should be examined in a wider context with the surrounding arterials and intersections when improvements are identified for these areas.

Table IV-4 shows the results of implementing the mitigation program.

Table IV-5 shows future ICUs for all the intersections in the City that were studied in this Circulation Element analysis. The ICUs listed here include the improvements noted in this chapter, plus a Transportation Demand Management (TDM) peak hour trip reduction of 10 percent, this is in response to South Coast Air Quality Management District (AQMD) regulations and Circulation Element Goal #3 regarding TDM. As can be seen here, the combined mitigation program and TDM actions are able to accommodate the proposed land uses and achieve the roadway performance criteria.

Table IV-3

## POTENTIAL MITIGATION PROGRAM IMPROVEMENTS

LOCATION	IMPROVEMENT	— ALTERNATIVE —	
		BO	GC
ARTERIALS			
Florence E/O Studebaker	Stripe to six lanes	Yes	Yes
Florence W/O Pioneer	Stripe to six lanes	Yes	Yes
Florence E/O Pioneer	Stripe to six lanes	Yes	Yes
Florence E/O Norwalk	Stripe to six lanes	Yes	No
Rosecrans W/O Carmenita	Stripe to six lanes	Yes	Yes
INTERSECTIONS			
4. Orr & Day & Florence	3rd EBT, 3rd WBT	Yes	Yes
9. Pioneer & Florence	3rd EBT, 3rd WBT	Yes	No
11. Norwalk & Washington	3rd WBT	Yes	Yes
13. Norwalk & Telegraph	2nd NBL, 2nd WBL	Yes	Yes
14. Norwalk & Florence	SBR, 2nd EBL*, 3rd EBT, 3rd WBT	Yes	Yes
19. Bloomfield & Florence	2nd EBL, 3rd WBT	Yes	Yes
26. Shoemaker & Imperial Hwy	3rd WBT	Yes	Yes
30. Carmenita & Telegraph	2nd NBL, 3rd EBT	Yes	Yes
31. Carmenita & Florence	3rd EBT	Yes	Yes
32. Carmenita & Imperial Hwy	2nd NBL, EBR	Yes	Yes
SPECIAL TRANSPORTATION IMPROVEMENT AREAS			
1) I-605/Telegraph			
1. I-605 SB Ramps & Telegraph	WB free-right	Yes	Yes
2) I-5/Carmenita/Firestone			
Carmenita at I-5	Widen overcrossing to four-lanes	Yes	Yes
34. Carmenita & Firestone/I-5 SB Ramps	2nd SBL	Yes	Yes
41. Carmenita & Excelsior/I-5 NB Ramps	2nd SBT, 2nd EBL	Yes	Yes
3) I-5/Valley View/Alondra			
40. Valley View & Alondra	2nd EBL, 2nd WBL	Yes	Yes
BO Buildout alternative			
GC Golf Course alternative			
* Mitigation for Buildout alternative only			

Note: Refer to Figure IV-5 for areas depicted





Table IV-4

## MITIGATION MEASURE SUMMARY

ADT LINK LOCATION	EXISTING	BUILDOUT		GOLF COURSE ALTERNATIVE	
		W/O MIT	W/MIT	W/O MIT	W/MIT
Florence E/O Studebaker	1.05	1.21	.81	1.16	.77
Florence W/O Pioneer	1.26	1.47	.98	1.42	.95
Florence E/O Pioneer	.89	1.11	.74	1.03	.68
Florence E/O Norwalk	.79	.92	.61	.89	NM
Los Nietos W/O Santa Fe Springs	.73	.87	I	.87	I
Rosecrans W/O Carmenita	.87	.92	.61	.92	.61
Telegraph W/O Orr & Day	.93	1.02	S	.98	S
Washington W/O Sorenson	1.08	1.11	I	1.11	I

INTERSECTION LOCATION	EXISTING		BUILDOUT				GOLF COURSE ALTERNATIVE			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. I-605 SB Ramps & Telegraph	.87	.83	.96	1.08	.96	.72	.95	.94	.95	.69
4. Orr & Day & Florence	.71	.77	.89	.99	.67	.78	.75	.93	.60	.74
9. Pioneer & Florence	.76	.77	.97	.93	.74	.74	.84	.88	NM	NM
11. Norwalk & Washington	1.03	.93	1.07	1.01	.86	.90	1.05	.97	.84	.86
13. Norwalk & Telegraph	.81	.82	.99	1.13	.99	.93	.86	.92	.86	.80
14. Norwalk & Florence	.82	.89	1.29	1.15	.93	.89	.94	1.02	.80	.80
19. Bloomfield & Florence	.69	.71	.92	.96	.71	.96	.89	.94	.70	.94
26. Shoemaker & Imperial Hwy	.87	.61	.94	.99	.70	.76	.94	.99	.70	.76
30. Carmenita & Telegraph	.76	.92	.93	1.07	.84	.90	.88	1.02	.79	.87
31. Carmenita & Florence	.71	.89	.88	1.05	.88	.89	.83	1.04	.83	.89
32. Carmenita & Imperial Hwy	.71	.81	1.11	1.15	.94	.91	1.12	1.14	.94	.90
34. Carmenita & Firestone/I-5 SB Ramps	.93	.62	1.07	1.03	.96	.79	1.06	1.03	.96	.78
40. Valley View & Alondra	1.02	.98	1.05	1.02	.98	.96	1.05	1.02	.98	.96
41. Carmenita & Excelsior/I-5 NB Ramps	.85	.89	1.31	1.44	.76	.85	1.30	1.44	.75	.86

NM No mitigation needed

S Special Transportation Improvement Area

I Intersection-related capacity augmentation

Table IV-5

## ICU SUMMARY - WITH MITIGATION &amp; TDM

INTERSECTION	BUILDOUT		GOLF COURSE ALTERNATIVE	
	AM	PM	AM	PM
1. I-605 SB Ramps & Telegraph	.87	.66	.87	.63
2. I-605 NB/Bartley & Telegraph	.80	.77	.79	.71
3. Orr & Day & Telegraph	.65	.76	.64	.69
4. Orr & Day & Florence	.60	.71	.55	.67
5. Jersey & Telegraph	.59	.68	.58	.62
6. Alburis & Telegraph	.60	.64	.59	.58
7. Pioneer & Los Nietos	.43	.47	.43	.47
8. Pioneer & Telegraph	.63	.69	.62	.64
9. Pioneer & Florence	.68	.67	.76	.79
10. Geary & Telegraph	.51	.54	.50	.51
11. Norwalk & Washington	.77	.82	.75	.78
12. Norwalk & Los Nietos	.54	.62	.54	.56
13. Norwalk & Telegraph	.90	.85	.78	.73
14. Norwalk & Florence	.85	.81	.72	.73
15. Dice & Slauson	.50	.51	.50	.51
16. Sorenson & Slauson	.79	.73	.79	.73
17. Sta Fe Springs & Los Nietos	.73	.72	.73	.70
18. Santa Fe Springs & Telegraph	.79	.79	.75	.74
19. Bloomfield & Florence	.65	.86	.64	.86
20. Bloomfield & Lakeland	.50	.45	.49	.44
21. Bloomfield & Imperial Hwy	.87	.82	.84	.81
22. Greenleaf & Los Nietos	.76	.67	.76	.67
23. Greenleaf & Telegraph	.59	.60	.55	.56
24. Shoemaker & Florence	.70	.73	.67	.73
25. Shoemaker & Lakeland	.38	.41	.37	.41
26. Shoemaker & Imperial Hwy	.63	.68	.64	.68
27. Painter & Los Nietos	.36	.32	.36	.32
28. Painter & Telegraph	.73	.82	.70	.76
29. Painter & Florence	.64	.62	.62	.61
30. Carmenita & Telegraph	.76	.81	.73	.78
31. Carmenita & Florence	.79	.81	.75	.79
32. Carmenita & Imperial Hwy	.86	.83	.86	.83
33. Carmenita & Foster	.74	.62	.74	.62
34. Carmenita & Firestone/I-5 SB Ramps	.88	.71	.87	.71
35. Carmenita & Alondra	.66	.62	.66	.62
36. Marquardt & Imperial Hwy	.56	.75	.56	.75
37. Marquardt & Rosecrans	.63	.61	.62	.61
38. Marquardt & Alondra	.74	.72	.74	.72
39. I-5 NB Ramps & Alondra	.57	.66	.57	.66
40. Valley View & Alondra	.88	.87	.88	.87
41. Carmenita & Excelsior/I-5 NB Ramps	.68	.77	.68	.77
42. I-5 SB Ramps & Firestone	.50	.90	.50	.90

Note: Successful implementation of TDM represents a 10 percent reduction in volumes.

## **APPENDIX A**

### **DERIVATION OF TRIP GENERATION RATES**

Trip generation rates used for analyzing development in the Santa Fe Springs area were compiled from two sources; the Institute of Transportation Engineer's (ITE) "Trip Generation" manual (Fifth Edition, January 1991) and the San Diego Association of Governments "Traffic Generators" notebook (July 1992). Table A-1 summarizes the trip generation rates used in the Santa Fe Springs Traffic Model (SFSTM) and the following discusses the derivation of each category.

#### **1. Residential - Single-Family Detached**

Any single-family detached home is included in this category.

Average daily traffic (ADT) trip generation rate of 9.55 trips per dwelling unit (DU) and the corresponding peak hour rates were taken from the ITE rates for Single-Family Detached Housing (ITE Code 210). AM peak hour Inbound (IB) and Outbound (OB) rates are .19 and .55, respectively, and PM peak hour IB and OB rates are .66 and .35, respectively.

#### **2. Residential - Single-Family Attached**

This category consists of homes that are attached to one another in one building structure such as condominiums and townhouses. These are different from apartments in that they are individual ownership type and not rental type units.

ADT trip generation rate of 5.86 trips per DU and the corresponding peak hour rates were derived from the ITE rates for Residential Condominium/Townhouse (ITE Code 230). AM peak hour IB and OB rates are .07 and .37, respectively, and PM peak hour IB and OB rates are .36 and .19, respectively.

#### **3. Residential - Multi-Family**

This category includes attached homes that are in the same building structure. Unlike condominiums and townhouse units, which are usually individually owned, all apartment units are rentals with one owner for the whole complex.

ADT trip generation rate of 6.47 trips per DU and the corresponding peak hour rates were derived from the ITE rates for Apartment (ITE Code 220). AM peak hour IB and OB rates are .09 and .42, respectively, and PM peak hour IB and OB rates are .43 and .20, respectively.



Table A-1

## ADT AND PEAK HOUR TRIP RATE SUMMARY

Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
		In	Out	Total	In	Out	Total	
1. Res-Single-Family Detached	DU	0.19	0.55	0.74	0.66	0.35	1.01	9.55
2. Res-Single-Family Attached	DU	0.07	0.37	0.44	0.36	0.19	0.55	5.86
3. Res - Multi-Family	DU	0.09	0.42	0.51	0.43	0.20	0.63	6.47
4. Res - Mobile Home Park	ACRE	0.58	2.62	3.20	2.80	1.65	4.45	39.13
5. Light Industrial	TSF	0.76	0.16	0.92	0.12	0.86	0.98	6.97
6. Heavy Industrial	TSF	0.73	0.05	0.78	0.40	0.35	0.75	3.85
7. Distribution Center	TSF	0.07	0.02	0.09	0.04	0.08	0.12	0.79
8. General Office	TSF	1.69	0.21	1.90	0.32	1.55	1.87	14.03
9. Medical Office	TSF	2.07	0.62	2.69	1.22	2.86	4.08	34.17
11. General Comm'l (<100 TSF)	TSF	1.02	0.60	1.62	3.28	3.28	6.56	70.67
12. Freeway Commercial	TSF	1.02	0.60	1.62	3.28	3.28	6.56	70.67
13. Bank (Walk-In)	TSF	3.13	1.76	4.89	7.63	9.72	17.35	140.61
14. Fast Food Restaurant	TSF	14.17	13.61	27.78	9.50	8.77	18.27	316.06
15. Service Station	STAT	2.30	2.20	4.50	4.50	4.50	9.00	75.00
16. Bowling Alley	TSF	1.87	1.25	3.12	1.24	2.30	3.54	33.33
17. Indoor Cinema	SEAT	0.00	0.00	0.00	0.24	0.02	0.26	1.76
18. Motel	ROOM	0.24	0.42	0.66	0.34	0.26	0.60	10.19
19. Motel	ROOM	0.40	0.27	0.67	0.41	0.35	0.76	8.70
20. Church	TSF	0.47	0.27	0.74	0.39	0.33	0.72	9.32
21. Fire Station	STAT	6.00	0.00	6.00	0.00	6.00	6.00	30.00
22. Cemetery	ACRE	0.00	0.00	0.00	0.00	0.00	0.00	4.16
23. Elementary/Jr High School	STU	0.18	0.12	0.30	0.02	0.03	0.05	1.09
24. High School	STU	0.28	0.13	0.41	0.02	0.06	0.08	1.38
25. Park/Recreation	ACRE	0.05	0.04	0.09	0.09	0.09	0.18	2.23
26. Auto Mall	ACRE	11.00	4.00	15.00	10.00	14.00	24.00	300.00
27. Civic Center	TSF	2.00	0.25	2.25	0.89	1.97	2.86	25.00
28. Storage	SG	0.00	0.00	0.00	0.00	0.00	0.00	20.00
29. Community/Cultural Center	SG	0.00	0.00	0.00	0.00	0.00	0.00	50.00
30. Utility	SG	0.00	0.00	0.00	0.00	0.00	0.00	10.00
31. Swap Meet	PKAC	10.00	10.00	20.00	10.00	10.00	20.00	200.00
32. Recycling/Redist. Ctr	SG	23.14	23.14	46.28	10.68	10.68	21.36	356.00
33. Open Space/Ag/ROW	ACRE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34. Public Works Yard	SG	0.00	0.00	0.00	0.00	0.00	0.00	200.00
35. Fire Station HQ	SG	0.00	0.00	0.00	0.00	0.00	0.00	80.00
36. Parking Lot	LOT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37. Vacant	ACRE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38. Day Care Center	STU	0.44	0.38	0.82	0.38	0.45	0.83	4.65
39. Business Park	TSF	1.38	0.24	1.62	0.33	1.15	1.48	14.37
40. Golf Course	ACRE	0.22	0.05	0.27	0.08	0.31	0.39	8.33
41. Auto Service Center	TSF	1.12	0.18	1.30	0.88	1.32	2.20	20.00
42. Drive-In Theater	PKSP	0.00	0.00	0.00	0.00	0.00	0.00	2.00

## SFSTW ADT AND PEAK HOUR TRIP GENERATION EQUATION SUMMARY

EQUATION FORM:  $LN(T) = A * LN(X) + B$

WHERE: X=LAND USE AMOUNT &amp; T=DAILY TRIPS

Land Use Type	Units	- Coefficients -		Pk/ADT Ratio	-- AM Peak Hour --		-- PM Peak Hour --	
		A	B		In	Out	Pk/ADT Ratio	In Out
10. Comm'l Ctr (100 TSF & up)	TSF	0.625	5.985	0.022	63%	37%	0.094	50% 50%

#### **4. Residential - Mobile Home Park**

ADT trip generation rate of 39.13 trips per acre and the corresponding peak hour rates were derived from the ITE rates for Mobile Home Park (ITE Code 240). AM peak hour IB and OB rates are .58 and 2.62, respectively, and PM peak hour IB and OB rates are 2.80 and 1.65, respectively.

#### **5. Light Industrial**

Light industrial facilities usually have 500 or fewer employees and have an emphasis on activities other than manufacturing (i.e. printing plants; material testing laboratories, data processing equipment assemblers). Dairy farm is included in this category.

ADT trip generation rate of 6.97 trips per thousand square foot (TSF) and the corresponding peak hour rates were derived from the ITE rates for General Light Industrial (ITE Code 110). AM peak hour IB and OB rates are .76 and .16, respectively, and PM peak hour IB and OB rates are .12 and .86, respectively.

#### **6. Heavy Industrial**

Heavy industrial facilities usually have a significant amount of land or building area devoted to equipment or product storage. Large items are typically manufactured. Included in this category are refineries and lumber yards.

ADT trip generation rate of 3.85 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for Manufacturing (ITE Code 140). AM peak hour IB and OB rates are .73 and .05, respectively, and PM peak hour IB and OB rates are .40 and .35, respectively.

#### **7. Distribution Center**

This type of warehouse is used for storage of manufactured goods prior to their distribution to retail outlets. The number of employees working in this type of warehouse is usually low due to mechanization. Truck activities occur most frequently during the off-peak period of the adjacent street system.

PM peak hour IB and OB rates of .04 and .08, respectively, per TSF were derived from the ITE rates for High-Cube Warehouse (ITE Code 152). Not provided are the corresponding ADT and AM peak hour IB and OB rates for this category. The ADT rate was calculated by applying the ADT to PM peak hour ratio from the ITE rates for Warehousing (ITE Code 150) to the given PM peak hour rate here. The AM peak hour rate was calculated by applying the AM peak hour to ADT ratio also from Warehousing to the newly derived ADT rate here. The same IB and OB split given in the AM peak hour for Warehousing was also used. The results were an ADT trip generation rate of .79 trips per TSF and AM peak hour IB and OB rates of .07 and .02, respectively.

#### **8. General Office**

A general office building may have a single tenant or may contain a mixture of tenants including professional services, insurance companies and investment brokers.



ADT trip generation rate of 14.03 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for General Office Building (ITE Code 710 100,000 square feet). AM peak hour IB and OB rates are 1.69 and .21, respectively, and PM peak hour IB and OB rates are .32 and 1.55, respectively.

## 9. Medical Office

A medical office building usually consists of outpatient type of visits where long term in-house care is not provided. Dental and optometry offices are also included in this category.

ADT trip generation rate of 34.17 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for Medical-Dental Office Building (ITE Code 720). AM peak hour IB and OB rates are 2.07 and .62, respectively, and PM peak hour IB and OB rates are 1.22 and 2.86, respectively.

## 10. Commercial Center (100 TSF and up)

Commercial stores 100,000 square feet and over, including major shopping centers, are included in this category.

ADT trip generation and the corresponding peak hour rates were derived from the ITE regression equations for Shopping Center (ITE Code 820). ITE shows a strong relationship between trip generation rate and size of the shopping center. The trip generation rate decreases with increasing size of the development. This is reasonable, given that large retail sites have longer durations of stay and multiple activities with one site. Small retail sites have shorter durations of stay and little or no multiple-store activity. The weekday ADT equation is as follows.

$$\text{LN}(T) = .625 \text{ LN}(X) + 5.985 \text{ where } X = \text{Gross Leasable Area and } T = \text{Daily Trips}$$

Gross leasable area rather than gross floor area (GFA) is emphasized as the unit of measure for shopping centers for this equation. The primary location where this distinction is important is in enclosed malls. The common areas (walking areas, fountains, etc.) are not included as leasable area (although mall offices would be). Gross floor area is generally equivalent to leasable area for non-enclosed shopping centers and so can be used as the unit of measure.

To compute peak hour inbound and outbound rates, the following factors are applied:

AM: peak daily ratio = .022	inbound/outbound split = 63/37
PM: peak daily ratio = .094	inbound/outbound split = 50/50

## 11. General Commercial

Included in this category are commercial stores less than 100,000 square feet. These include specialty retail centers where a variety of retail shops, specializing in quality apparel, hard goods, services such as real estate offices, dance studios, or florists and small restaurants.

ADT trip generation rate of 70.67 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for Shopping Center (ITE Code 820 100,000 square feet). AM peak hour



IB and OB rates are 1.02 and .60, respectively, and PM peak hour IB and OB rates are 3.28 and 3.28, respectively.

## **12. Freeway Commercial**

Stores having high freeway visibility and selling specialty goods such as furniture, auto parts, etc.

The same General Commercial trips rates as described above are used in this category.

## **13. Bank (Walk-in)**

Walk-in banks are general free-standing with their own parking lots. These banks do not have drive-in windows.

ADT trip generation rate of 140.61 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for Walk-in Bank (ITE Code 911). AM peak hour IB and OB rates are 3.13 and 1.76, respectively, and PM peak hour IB and OB rates are 7.63 and 9.72, respectively.

## **14. Fast Food Restaurant**

ADT trip generation rate of 632.12 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for Fast Food Restaurant with Drive-Through Window (ITE Code 834) and were reduced by 50 percent to 316.06 to allow for a high percentage of pass-by traffic. AM peak hour IB and OB rates of 28.34 and 27.22, respectively, were reduced by 50 percent to 14.17 and 13.61, respectively. PM peak hour IB and OB rates of 19.00 and 17.53, respectively, were reduced by 50 percent to 9.50 and 8.77, respectively.

## **15. Service Station**

ADT trip generation rate of 750.00 trips per station (STAT) and the corresponding peak hour rates were derived from the SANDAG rates for Automobile Gasoline sales and were reduced by 90 percent to 75.00 to allow for a high percentage of pass-by traffic. AM peak hour IB and OB rates of 23.00 and 22.00, respectively, were reduced by 90 percent to 2.30 and 2.20, respectively. PM peak hour IB and OB rates of 45.00 and 45.00, respectively, were reduced by 90 percent to 4.50 and 4.50, respectively.

## **16. Bowling Alley**

ADT trip generation rate of 33.33 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for Bowling Alley (ITE Code 494). AM peak hour IB and OB rates are 1.87 and 1.25, respectively, and PM peak hour IB and OB rates are 1.24 and 2.30, respectively.

## **17. Indoor Cinema**

ADT trip generation rate of 1.76 trips per seat and the corresponding peak hour rates were derived from the ITE rates for Movie Theater without Matinee (ITE Code 443). AM peak hour trip generation is assumed to be negligible. PM peak hour IB and OB rates are .24 and .02, respectively.

## **18. Motel**

A motel room was calculated at 500 square feet per room.

ADT trip generation rate of 10.19 trips per room and the corresponding peak hour rates were derived from the ITE rates for Motel (ITE Code 320). AM peak hour IB and OB rates are .24 and .42, respectively, and the PM peak hour IB and OB rates are .34 and .26, respectively.

## **19. Hotel**

A hotel room was calculated at 750 square feet per room.

ADT trip generation rate of 8.70 trips per room and the corresponding peak hour rates were derived from the ITE rates for Hotel (ITE Code 310). AM peak hour IB and OB rates are .40 and .27, respectively, and the PM peak hour IB and OB rates are .41 and .35, respectively.

## **20. Church**

ADT trip generation rate of 9.32 trips per TSF and the corresponding peak hour rates were derived from the ITE rates for Church (ITE Code 560). AM peak hour IB and OB rates are .47 and .27, respectively, and the PM peak hour IB and OB rates are .39 and .33, respectively.

## **21. Fire Station**

Classified as a special generator in terms of land use within the City, Fire Station has a nominal ADT trip generation rate of 30.00 trips per station. AM and PM peak hour rates are 20 percent of the ADT with 100/0 AM IB and OB split and 0/100 PM IB and OB split.

## **22. Cemetery**

ADT trip generation rate of 4.16 trips per acre is derived from the ITE rate for Cemetery (ITE Code 566). No peak hour trips are generated by this land use.

## **23. Elementary/Junior High School**

ADT trip generation rate of 1.09 trips per student (STU) and the corresponding AM peak hour IB and OB rates of .18 and .12, respectively, were derived from the ITE rates for Elementary School (ITE Code 520). PM peak hour IB and OB rates of .02 and .03, respectively, were taken from SANDAG rates for Education Elementary.

## **24. High School**

ADT trip generation rate of 1.38 trips per student as well as the corresponding peak hour rates were taken from the ITE rates for High School (ITE Code 530). AM peak hour IB and OB rates are .28 and .13, respectively, and PM peak hour IB and OB rates are .02 and .06, respectively.

## **25. Park/Recreation**

Horse stable and athletic park are also included in this category.

ADT trip generation rate of 2.23 trips per acre was derived from the ITE rate for City Park (ITE Code 411). Peak hour rates were taken from the SANDAG rates for Neighborhood/Regional (Undeveloped) Park and are as follows: AM peak hour IB and OB rates are .05 and .04, respectively, and PM peak hour IB and OB rates are .09 and .09, respectively. Inbound/Outbound split is assumed to be 50/50.

## **26. Auto Mall**

This category includes automobile dealer sales and repair and is applied to an area containing several such businesses grouped together.

ADT trip generation rate of 300.00 trips per acre and the corresponding peak hour rates were derived from the SANDAG rates for Automobile Sales Dealer and Repair. AM peak hour IB and OB rates are 11.00 and 4.00, respectively, and PM peak hour rates are 10.00 and 14.00, respectively.

## **27. Civic Center**

A civic center consists of a group of office buildings where City and/or County government functions are conducted. Libraries, courts and post offices also make-up the civic center setting. Each of the buildings is interconnected by pedestrian walkways.

ADT trip generation rate of 25.00 trips per TSF and the corresponding peak hour rates were taken from the ITE rates for Government Office Complex (ITE Code 733). AM peak hour IB and OB rates are 2.00 and .25, respectively, and PM peak hour rates are .89 and 1.97, respectively.

## **28. Storage**

Classified as a special generator in terms of land use within the City, Storage (Motor Home, Open and Public) has a nominal ADT trip generation rate of 20.00 trips for a single business operation. Peak hour rates are assumed to be negligible.

## **29. Community/Cultural Center**

Classified as a special generator in terms of land use within the City, Community/Cultural Center (Clarke Estate, Heritage Park, Neighborhood Center and Police Service Center) has a nominal ADT trip generation rate of 50.00 trips per location. Peak hour rates are assumed to be negligible.

## **30. Utility**

Classified as a special generator in terms of land use within the City, Utility sites have a nominal ADT trip generation rate of 10.00 trips per location. Peak hour rates are assumed to be negligible.



### **31. Swap Meet**

Classified as a special generator in terms of land use within the City, Swap Meet has an ADT trip generation rate of 200.00 trips per acre of available parking (PKAC) assuming turnover twice and 50 percent utilization. AM and PM peak hour rates are 10 percent of the ADT with 50/50 IB and OB splits for both AM and PM.

### **32. Recycling/Redistribution Center**

Recycling/Redistribution Center is described as a trash transfer station and materials recovery facility. Public recycling is not available.

This use is classified as a special generator in terms of land use within the City. ADT trip generation rate of 356.00 trips per thousand ton (TTON) processed and the corresponding peak hour rates were derived from Chambers Waste Systems of California (Vernon Transfer Station Traffic Analysis, Austin-Foust Associates, Inc., July 1992). AM peak hour IB and OB rates are 23.14 and 23.14, respectively, and PM peak hour IB and OB rates are 10.68 and 10.68, respectively.

### **33. Open Space/Agricultural/Right-of-Way (ROW)**

ADT and peak hour trip generation is assumed to be negligible for these land uses.

### **34. Public Works Yard**

Classified as a special generator in terms of land use within the City, Public Works Yard has a nominal ADT trip generation rate of 200.00 trips per location. Peak hour rates are assumed to be negligible.

### **35. Fire Station Headquarters**

Classified as a special generator in terms of land use within the City, Fire Station Headquarters has a nominal ADT trip generation rate of 80.00 trips per location. Peak hour rates are assumed to be negligible.

### **36. Parking Lot**

For informational purposes only, parcels which are noted as parking lots have been quantified. No trip generation is assigned to and from these parcels. Parking lots themselves are not trip generators; the surrounding land uses that they serve are what generate trips.

### **37. Vacant**

Parcels under this category differ from those under the Open Space category because they are developable or usable.

ADT and peak hour trip generation is assumed to be negligible for these land uses.

### **38. Day Care Center**

A day care center is a facility where care for pre-school age children is provided, normally during the daytime hours. Day care facilities include classrooms, offices, eating areas, and playgrounds. Some centers also provide after school care for older children. These facilities are free-standing (job on-site facilities have different trip generation rates).

ADT trip generation rate of 4.65 trips per student and the corresponding peak hour rates were taken from the ITE rates for Day Care Center (ITE Code 565). AM peak hour IB and OB rates are .44 and .38, respectively, and PM peak hour IB and OB rates are .38 and .45, respectively.

### **39. Business Park**

Business parks consist of a group of one- or two-story buildings served by a common roadway system and may include a mix of offices, retail and wholesale sales, restaurants, recreation, warehousing, manufacturing, light industrial or scientific research functions.

ADT trip generation rate of 14.37 trips per TSF and the corresponding peak hour rates were taken from the ITE rates for Business Park (ITE Code 770). AM peak hour IB and OB rates are 1.38 and .24, respectively, and PM peak hour IB and OB rates are .33 and 1.15, respectively.

### **40. Golf Course**

Public or private golf courses with nine, 18 or 27 holes are included in this category. Some sites have driving ranges, clubhouses with a pro shop, and/or restaurant, lounge and banquet facilities.

ADT trip generation rate of 8.33 trips per acre and the corresponding peak hour rates were taken from the ITE rates for Golf Course (ITE Code 430). AM peak hour IB and OB rates are .22 and .05, respectively, and PM peak hour IB and OB rates are .08 and .31, respectively.

### **41. Auto Service Center**

Automobile repair shops are included in this category.

ADT trip generation rate of 20 trips per TSF and the corresponding peak hour rates were taken from the SANDAG rates for Auto Repair Center and are as follows: AM peak hour IB and OB rates are 1.12 and .18, respectively, and PM peak hour IB and OB rates are .88 and 1.32, respectively.

### **42. Drive-in Theater**

Representing a worst case scenario when operating at full capacity, a drive-in theater has a nominal ADT trip generation rate of 2.00 trips per parking space. Peak hour rates are assumed to be negligible.

## LAND USE AND TRIP GENERATION DATA

Figure A-1 shows the SFSTM traffic zone system. The tables that follow contain the existing (1992) and buildout (Post-2010) land uses and trip generation by zone for the City of Santa Fe Springs. It should be noted that the Post-2010 land use summarized here reflects changes only to existing land use that is listed for the Special Study Areas.



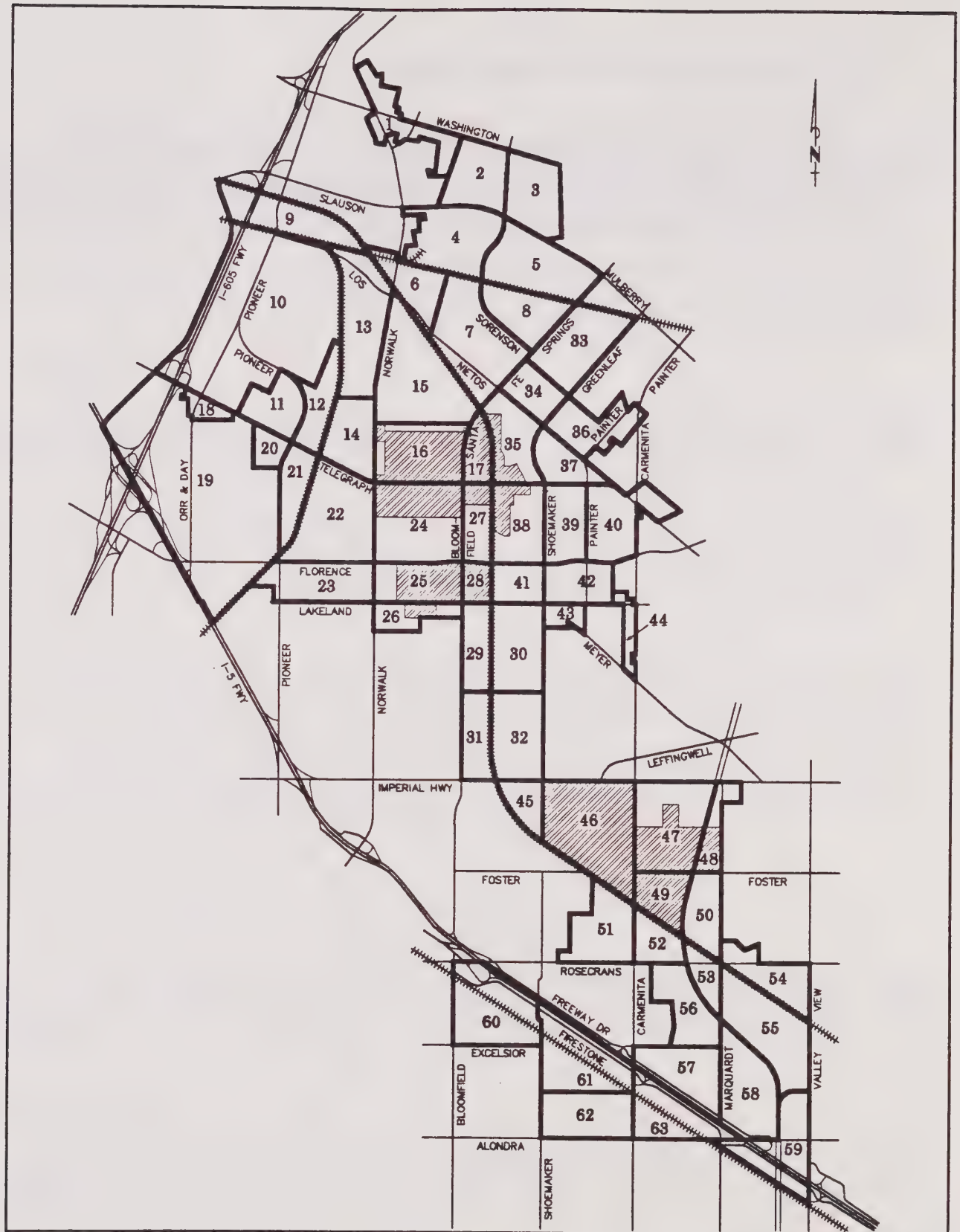


Figure A-1  
SFSTM TRAFFIC ANALYSIS  
ZONE SYSTEM

SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
1	3. Res - Multi-Family	192.00 DU	17	81	98	83	38	121	1242
	5. Light Industrial	167.31 TSF	127	27	154	20	144	164	1166
	8. General Office	14.67 TSF	25	3	28	5	23	28	206
	10. Comm'l Ctr (100 TSF & up)	140.42 TSF	121	71	192	411	411	822	8738
	11. General Comm'l (<100 TSF)	168.76 TSF	172	101	273	554	554	1108	11926
	13. Bank (Walk-In)	2.59 TSF	8	5	13	20	25	45	364
	18. Motel	16.00 ROOM	4	7	11	5	4	9	163
	37. Vacant	6.12 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		474	295	769	1098	1199	2297	23805
2	4. Res - Mobile Home Park	0.79 ACRE	0	2	2	2	1	3	31
	5. Light Industrial	631.99 TSF	480	101	581	76	544	620	4405
	6. Heavy Industrial	280.58 TSF	205	14	219	112	98	210	1080
	8. General Office	30.48 TSF	52	6	58	10	47	57	428
	9. Medical Office	7.00 TSF	14	4	18	9	20	29	239
	11. General Comm'l (<100 TSF)	2.99 TSF	3	2	5	10	10	20	211
	36. Parking Lot	2.00 LOT	0	0	0	0	0	0	0
	37. Vacant	1.76 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		754	129	883	219	720	939	6394
3	5. Light Industrial	1044.18 TSF	794	167	961	125	898	1023	7278
	6. Heavy Industrial	317.67 TSF	232	16	248	127	111	238	1223
	8. General Office	78.38 TSF	132	16	148	25	121	146	1100
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	1.70 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		1158	199	1357	277	1130	1407	9601
4	1. Res-Single-Family Detached	33.00 DU	6	18	24	22	12	34	315
	6. Heavy Industrial	1524.23 TSF	1113	76	1189	610	533	1143	5868
	9. Medical Office	3.00 TSF	6	2	8	4	9	13	103
	21. Fire Station	1.00 STAT	6	0	6	0	6	6	30
	36. Parking Lot	2.00 LOT	0	0	0	0	0	0	0
	37. Vacant	10.92 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		1131	96	1227	636	560	1196	6316
5	6. Heavy Industrial	860.72 TSF	628	43	671	344	301	645	3314
	8. General Office	108.25 TSF	183	23	206	35	168	203	1519
	37. Vacant	17.03 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		811	66	877	379	469	848	4833
6	6. Heavy Industrial	18.15 TSF	13	1	14	7	6	13	70
	8. General Office	133.59 TSF	226	28	254	43	207	250	1874
	37. Vacant	0.46 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		239	29	268	50	213	263	1944
7	6. Heavy Industrial	1221.91 TSF	892	61	953	489	428	917	4704
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	12.58 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		892	61	953	489	428	917	4704

SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
8	6. Heavy Industrial	907.16 TSF	662	45	707	363	318	681	3493
	37. Vacant	1.00 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		662	45	707	363	318	681	3493
9	6. Heavy Industrial	807.92 TSF	590	40	630	323	283	606	3110
	37. Vacant	4.89 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		590	40	630	323	283	606	3110
10	1. Res-Single-Family Detached	1453.00 DU	276	799	1075	959	509	1468	13876
	3. Res - Multi-Family	309.00 DU	28	130	158	133	62	195	1999
	11. General Comm'l (<100 TSF)	12.61 TSF	13	8	21	41	41	82	891
	20. Church	8.49 TSF	4	2	6	3	3	6	79
	23. Elementary/Jr High School	853.00 STU	154	102	256	17	26	43	930
	25. Park/Recreation	10.98 ACRE	1	0	1	1	1	2	24
	29. Community/Cultural Center	1.00 SG	0	0	0	0	0	0	50
	33. Open Space/Ag/ROW	4.79 ACRE	0	0	0	0	0	0	0
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	0.90 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		476	1041	1517	1154	642	1796	17849
11	5. Light Industrial	336.26 TSF	256	54	310	40	289	329	2344
	8. General Office	153.19 TSF	259	32	291	49	237	286	2149
	9. Medical Office	11.50 TSF	24	7	31	14	33	47	393
	36. Parking Lot	2.00 LOT	0	0	0	0	0	0	0
	SUB-TOTAL		539	93	632	103	559	662	4886
12	5. Light Industrial	34.24 TSF	26	5	31	4	29	33	239
	7. Distribution Center	255.61 TSF	18	5	23	10	20	30	202
	8. General Office	170.24 TSF	288	36	324	54	264	318	2388
	30. Utility	3.00 SG	0	0	0	0	0	0	30
	33. Open Space/Ag/ROW	0.37 ACRE	0	0	0	0	0	0	0
	37. Vacant	0.62 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		332	46	378	68	313	381	2859
13	6. Heavy Industrial	1462.64 TSF	1068	73	1141	585	512	1097	5631
	7. Distribution Center	309.55 TSF	22	6	28	12	25	37	245
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	0.21 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		1090	79	1169	597	537	1134	5876
14	6. Heavy Industrial	248.60 TSF	181	12	193	99	87	186	957
	7. Distribution Center	319.26 TSF	22	6	28	13	26	39	252
	8. General Office	20.84 TSF	35	4	39	7	32	39	292
	15. Service Station	1.00 STAT	2	2	4	5	5	10	75
	37. Vacant	25.40 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		240	24	264	124	150	274	1576
15	6. Heavy Industrial	176.78 TSF	129	9	138	71	62	133	681



SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
15	7. Distribution Center	2053.49 TSF	144	41	185	82	164	246	1622
	8. General Office	49.99 TSF	84	10	94	16	77	93	701
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	45.67 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		357	60	417	169	303	472	3004
16	5. Light Industrial	123.99 TSF	94	20	114	15	107	122	864
	7. Distribution Center	245.50 TSF	17	5	22	10	20	30	194
	15. Service Station	1.00 STAT	2	2	4	5	5	10	75
	37. Vacant	77.19 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		113	27	140	30	132	162	1133
17	37. Vacant	16.03 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
18	9. Medical Office	2.00 TSF	4	1	5	2	6	8	68
	11. General Comm'l (<100 TSF)	206.11 TSF	210	124	334	676	676	1352	14566
	29. Community/Cultural Center	1.00 SG	0	0	0	0	0	0	50
	SUB-TOTAL		214	125	339	678	682	1360	14684
19	1. Res-Single-Family Detached	1507.00 DU	286	829	1115	995	527	1522	14392
	3. Res - Multi-Family	187.00 DU	17	79	96	80	37	117	1210
	9. Medical Office	13.00 TSF	27	8	35	16	37	53	444
	11. General Comm'l (<100 TSF)	60.36 TSF	62	36	98	198	198	396	4266
	15. Service Station	2.00 STAT	5	4	9	9	9	18	150
	20. Church	51.46 TSF	24	14	38	20	17	37	480
	22. Cemetery	11.92 ACRE	0	0	0	0	0	0	50
	23. Elementary/Jr High School	485.00 STU	87	58	145	10	15	25	529
	24. High School	1556.00 STU	436	202	638	31	93	124	2147
	25. Park/Recreation	19.07 ACRE	1	1	2	2	2	4	43
	33. Open Space/Ag/ROW	12.54 ACRE	0	0	0	0	0	0	0
	36. Parking Lot	2.00 LOT	0	0	0	0	0	0	0
	37. Vacant	3.98 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		945	1231	2176	1361	935	2296	23711
20	27. Civic Center	195.07 TSF	390	49	439	174	384	558	4877
	29. Community/Cultural Center	1.00 SG	0	0	0	0	0	0	50
	37. Vacant	6.10 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		390	49	439	174	384	558	4927
21	5. Light Industrial	306.85 TSF	233	49	282	37	264	301	2139
	7. Distribution Center	89.78 TSF	6	2	8	4	7	11	71
	8. General Office	217.74 TSF	368	46	414	70	337	407	3055
	9. Medical Office	5.50 TSF	11	3	14	7	16	23	188
	33. Open Space/Ag/ROW	1.11 ACRE	0	0	0	0	0	0	0
	36. Parking Lot	2.00 LOT	0	0	0	0	0	0	0
	SUB-TOTAL		618	100	718	118	624	742	5453

SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
22	6. Heavy Industrial	467.98 TSF	342	23	365	187	164	351	1802
	7. Distribution Center	831.25 TSF	58	17	75	33	67	100	657
	8. General Office	337.18 TSF	570	71	641	108	523	631	4731
	9. Medical Office	2.50 TSF	5	2	7	3	7	10	85
	28. Storage	2.00 SG	0	0	0	0	0	0	40
	29. Community/Cultural Center	1.00 SG	0	0	0	0	0	0	50
	36. Parking Lot	9.00 LOT	0	0	0	0	0	0	0
	37. Vacant	11.35 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		975	113	1088	331	761	1092	7365
23	3. Res - Multi-Family	574.00 DU	52	241	293	247	115	362	3714
	4. Res - Mobile Home Park	7.41 ACRE	4	19	23	21	12	33	290
	6. Heavy Industrial	178.51 TSF	130	9	139	71	62	133	687
	7. Distribution Center	21.40 TSF	1	0	1	1	2	3	17
	8. General Office	11.68 TSF	20	2	22	4	18	22	164
	11. General Comm'l (<100 TSF)	9.39 TSF	10	6	16	31	31	62	664
	20. Church	14.79 TSF	7	4	11	6	5	11	138
	22. Cemetery	8.78 ACRE	0	0	0	0	0	0	37
	25. Park/Recreation	19.73 ACRE	1	1	2	2	2	4	44
	37. Vacant	1.38 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		225	282	507	383	247	630	5755
24	5. Light Industrial	247.22 TSF	188	40	228	30	213	243	1723
	6. Heavy Industrial	301.42 TSF	220	15	235	121	105	226	1160
	7. Distribution Center	265.18 TSF	19	5	24	11	21	32	209
	8. General Office	25.03 TSF	42	5	47	8	39	47	351
	13. Bank (Walk-In)	23.88 TSF	75	42	117	182	232	414	3358
	28. Storage	1.00 SG	0	0	0	0	0	0	20
	33. Open Space/Ag/ROW	0.37 ACRE	0	0	0	0	0	0	0
	36. Parking Lot	3.00 LOT	0	0	0	0	0	0	0
	37. Vacant	46.30 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		544	107	651	352	610	962	6821
25	5. Light Industrial	362.45 TSF	275	58	333	43	312	355	2526
	6. Heavy Industrial	668.08 TSF	488	33	521	267	234	501	2572
	8. General Office	6.30 TSF	11	1	12	2	10	12	88
	11. General Comm'l (<100 TSF)	9.45 TSF	10	6	16	31	31	62	668
	37. Vacant	7.30 ACRE	0	0	0	0	0	0	0
	41. Auto Service Center	12.01 TSF	13	2	15	11	16	27	240
	SUB-TOTAL		797	100	897	354	603	957	6094
26	1. Res-Single-Family Detached	1.00 DU	0	1	1	1	0	1	10
	5. Light Industrial	193.52 TSF	147	31	178	23	166	189	1349
	6. Heavy Industrial	100.56 TSF	73	5	78	40	35	75	387
	8. General Office	60.93 TSF	103	13	116	19	94	113	855
	11. General Comm'l (<100 TSF)	23.45 TSF	24	14	38	77	77	154	1657
	37. Vacant	1.72 ACRE	0	0	0	0	0	0	0
	42. Drive-In Theater	1586.00 PKSP	0	0	0	0	0	0	3172
	SUB-TOTAL		347	64	411	160	372	532	7430

SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
27	7. Distribution Center	55.83 TSF	4	1	5	2	4	6	44
	34. Public Works Yard	1.00 SG	0	0	0	0	0	0	200
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	19.68 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		4	1	5	2	4	6	244
28	37. Vacant	19.98 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
29	6. Heavy Industrial	896.05 TSF	654	45	699	358	314	672	3450
	37. Vacant	0.62 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		654	45	699	358	314	672	3450
30	5. Light Industrial	266.95 TSF	203	43	246	32	230	262	1861
	6. Heavy Industrial	718.00 TSF	524	36	560	287	251	538	2764
	35. Fire Station HQ	1.00 SG	0	0	0	0	0	0	80
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	10.92 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		727	79	806	319	481	800	4705
31	6. Heavy Industrial	480.26 TSF	351	24	375	192	168	360	1849
	8. General Office	123.73 TSF	209	26	235	40	192	232	1736
	11. General Comm'l (<100 TSF)	1.18 TSF	1	1	2	4	4	8	83
	37. Vacant	0.73 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		561	51	612	236	364	600	3668
32	5. Light Industrial	143.56 TSF	109	23	132	17	123	140	1001
	6. Heavy Industrial	874.75 TSF	639	44	683	350	306	656	3368
	28. Storage	1.00 SG	0	0	0	0	0	0	20
	36. Parking Lot	4.00 LOT	0	0	0	0	0	0	0
	37. Vacant	9.88 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		748	67	815	367	429	796	4389
33	6. Heavy Industrial	2016.49 TSF	1472	101	1573	807	706	1513	7763
	SUB-TOTAL		1472	101	1573	807	706	1513	7763
34	6. Heavy Industrial	164.98 TSF	120	8	128	66	58	124	635
	24. High School	1065.00 STU	298	138	436	21	64	85	1470
	37. Vacant	25.57 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		418	146	564	87	122	209	2105
35	5. Light Industrial	146.15 TSF	111	23	134	18	126	144	1019
	6. Heavy Industrial	113.45 TSF	83	6	89	45	40	85	437
	7. Distribution Center	205.02 TSF	14	4	18	8	16	24	162
	13. Bank (Walk-In)	1.31 TSF	4	2	6	10	13	23	184
	37. Vacant	17.47 ACRE	0	0	0	0	0	0	0
	37. Vacant	20.68 ACRE	0	0	0	0	0	0	0
	41. Auto Service Center	18.19 TSF	20	3	23	16	24	40	364
	SUB-TOTAL		232	38	270	97	219	316	2166



SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
36	1. Res-Single-Family Detached	23.00 DU	4	13	17	15	8	23	220
	5. Light Industrial	387.90 TSF	295	62	357	47	334	381	2704
	6. Heavy Industrial	277.13 TSF	202	14	216	111	97	208	1067
	8. General Office	7.64 TSF	13	2	15	2	12	14	107
	20. Church	26.10 TSF	12	7	19	10	9	19	243
	22. Cemetery	0.78 ACRE	0	0	0	0	0	0	3
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	1.62 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		526	98	624	185	460	645	4344
37	6. Heavy Industrial	340.71 TSF	249	17	266	136	119	255	1312
	7. Distribution Center	32.04 TSF	2	1	3	1	3	4	25
	10. Comm'l Ctr (100 TSF & up)	314.50 TSF	200	118	318	680	680	1360	14463
	11. General Comm'l (<100 TSF)	65.49 TSF	67	39	106	215	215	430	4628
	14. Fast Food Restaurant	1.89 TSF	27	26	53	18	17	35	597
	15. Service Station	1.00 STAT	2	2	4	5	5	10	75
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	0.62 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		547	203	750	1055	1039	2094	21100
38	5. Light Industrial	350.35 TSF	266	56	322	42	301	343	2442
	6. Heavy Industrial	123.66 TSF	90	6	96	49	43	92	476
	13. Bank (Walk-In)	12.81 TSF	40	23	63	98	125	223	1801
	30. Utility	1.00 SG	0	0	0	0	0	0	10
	37. Vacant	52.70 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		396	85	481	189	469	658	4729
39	6. Heavy Industrial	466.71 TSF	341	23	364	187	163	350	1797
	7. Distribution Center	146.15 TSF	10	3	13	6	12	18	115
	8. General Office	24.80 TSF	42	5	47	8	38	46	348
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	5.83 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		393	31	424	201	213	414	2260
40	5. Light Industrial	9.89 TSF	8	2	10	1	9	10	69
	6. Heavy Industrial	266.76 TSF	195	13	208	107	93	200	1027
	7. Distribution Center	58.53 TSF	4	1	5	2	5	7	46
	10. Comm'l Ctr (100 TSF & up)	454.57 TSF	252	148	400	856	856	1712	18208
	11. General Comm'l (<100 TSF)	442.95 TSF	452	266	718	1453	1453	2906	31303
	28. Storage	1.00 SG	0	0	0	0	0	0	20
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	3.60 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		911	430	1341	2419	2416	4835	50673
41	6. Heavy Industrial	104.29 TSF	76	5	81	42	37	79	402
	7. Distribution Center	120.17 TSF	8	2	10	5	10	15	95
	8. General Office	50.64 TSF	86	11	97	16	78	94	710
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0

SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
41	37. Vacant	0.10 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		170	18	188	63	125	188	1207
42	6. Heavy Industrial	707.40 TSF	516	35	551	283	248	531	2723
	7. Distribution Center	167.92 TSF	12	3	15	7	13	20	133
	SUB-TOTAL		528	38	566	290	261	551	2856
43	5. Light Industrial	243.51 TSF	185	39	224	29	209	238	1697
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	2.70 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		185	39	224	29	209	238	1697
44	2. Res-Single-Family Attached	32.00 DU	2	12	14	12	6	18	188
	11. General Comm'l (<100 TSF)	14.35 TSF	15	9	24	47	47	94	1014
	33. Open Space/Ag/ROW	1.86 ACRE	0	0	0	0	0	0	0
	37. Vacant	0.18 ACRE	0	0	0	0	0	0	0
	38. Day Care Center	260.00 STU	114	99	213	99	117	216	1209
	SUB-TOTAL		131	120	251	158	170	328	2411
45	6. Heavy Industrial	62.82 TSF	46	3	49	25	22	47	242
	33. Open Space/Ag/ROW	22.01 ACRE	0	0	0	0	0	0	0
	37. Vacant	4.57 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		46	3	49	25	22	47	242
46	37. Vacant	147.28 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
47	5. Light Industrial	317.16 TSF	241	51	292	38	273	311	2211
	6. Heavy Industrial	468.72 TSF	342	23	365	187	164	351	1805
	28. Storage	1.00 SG	0	0	0	0	0	0	20
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	64.39 ACRE	0	0	0	0	0	0	0
	41. Auto Service Center	13.44 TSF	15	2	17	12	18	30	269
	SUB-TOTAL		598	76	674	237	455	692	4305
48	5. Light Industrial	232.13 TSF	176	37	213	28	200	228	1618
	6. Heavy Industrial	154.58 TSF	113	8	121	62	54	116	595
	SUB-TOTAL		289	45	334	90	254	344	2213
49	37. Vacant	42.05 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
50	6. Heavy Industrial	2564.78 TSF	1872	128	2000	1026	898	1924	9874
	33. Open Space/Ag/ROW	5.24 ACRE	0	0	0	0	0	0	0
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	1.05 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		1872	128	2000	1026	898	1924	9874

SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
51	5. Light Industrial	56.02 TSF	43	9	52	7	48	55	390
	6. Heavy Industrial	1267.21 TSF	925	63	988	507	444	951	4879
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	SUB-TOTAL		968	72	1040	514	492	1006	5269
52	5. Light Industrial	24.28 TSF	18	4	22	3	21	24	169
	6. Heavy Industrial	155.76 TSF	114	8	122	62	55	117	600
	36. Parking Lot	3.00 LOT	0	0	0	0	0	0	0
	37. Vacant	0.94 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		132	12	144	65	76	141	769
53	6. Heavy Industrial	663.78 TSF	485	33	518	266	232	498	2556
	SUB-TOTAL		485	33	518	266	232	498	2556
54	6. Heavy Industrial	374.35 TSF	273	19	292	150	131	281	1441
	8. General Office	119.87 TSF	203	25	228	38	186	224	1682
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	SUB-TOTAL		476	44	520	188	317	505	3123
55	6. Heavy Industrial	2259.42 TSF	1649	113	1762	904	791	1695	8699
	SUB-TOTAL		1649	113	1762	904	791	1695	8699
56	6. Heavy Industrial	1489.63 TSF	1087	74	1161	596	521	1117	5735
	11. General Comm'l (<100 TSF)	22.98 TSF	23	14	37	75	75	150	1624
	36. Parking Lot	2.00 LOT	0	0	0	0	0	0	0
	37. Vacant	0.83 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		1110	88	1198	671	596	1267	7359
57	6. Heavy Industrial	1227.69 TSF	896	61	957	491	430	921	4727
	36. Parking Lot	1.00 LOT	0	0	0	0	0	0	0
	37. Vacant	2.42 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		896	61	957	491	430	921	4727
58	6. Heavy Industrial	598.45 TSF	437	30	467	239	209	448	2304
	31. Swap Meet	7.10 PKAC	71	71	142	71	71	142	1420
	37. Vacant	4.74 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		508	101	609	310	280	590	3724
59	6. Heavy Industrial	785.44 TSF	573	39	612	314	275	589	3024
	7. Distribution Center	25.00 TSF	2	1	3	1	2	3	20
	8. General Office	60.42 TSF	102	13	115	19	94	113	848
	9. Medical Office	5.50 TSF	11	3	14	7	16	23	188
	12. Freeway Commercial	65.22 TSF	67	39	106	214	214	428	4609
	14. Fast Food Restaurant	2.69 TSF	38	37	75	26	24	50	850
	15. Service Station	1.00 STAT	2	2	4	5	5	10	75
	19. Hotel	70.00 ROOM	28	19	47	29	25	54	609
	37. Vacant	0.37 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		823	153	976	615	655	1270	10223



SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) ZONAL LAND USE AND TRIP GENERATION (cont.)

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
60	6. Heavy Industrial	599.60 TSF	438	30	468	240	210	450	2308
	8. General Office	179.60 TSF	304	38	342	57	278	335	2520
	12. Freeway Commercial	55.42 TSF	57	33	90	182	182	364	3917
	37. Vacant	4.46 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		799	101	900	479	670	1149	8745
61	6. Heavy Industrial	477.37 TSF	348	24	372	191	167	358	1838
	7. Distribution Center	348.19 TSF	24	7	31	14	28	42	275
	9. Medical Office	3.50 TSF	7	2	9	4	10	14	120
	12. Freeway Commercial	534.99 TSF	546	321	867	1755	1755	3510	37808
	36. Parking Lot	3.00 LOT	0	0	0	0	0	0	0
	SUB-TOTAL		925	354	1279	1964	1960	3924	40041
62	6. Heavy Industrial	814.36 TSF	594	41	635	326	285	611	3135
	7. Distribution Center	15.84 TSF	1	0	1	1	1	2	13
	21. Fire Station	1.00 STAT	6	0	6	0	6	6	30
	36. Parking Lot	2.00 LOT	0	0	0	0	0	0	0
	SUB-TOTAL		601	41	642	327	292	619	3178
63	6. Heavy Industrial	623.26 TSF	455	31	486	249	218	467	2400
	12. Freeway Commercial	179.51 TSF	183	108	291	589	589	1178	12686
	SUB-TOTAL		638	139	777	838	807	1645	15086

SANTA FE SPRINGS TRAFFIC MODEL - EXISTING (1992) LAND USE AND TRIP GENERATION SUMMARY

Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
		In	Out	Total	In	Out	Total	
1. Res-Single-Family Detached	3017.00 DU	572	1660	2232	1992	1056	3048	28813
2. Res-Single-Family Attached	32.00 DU	2	12	14	12	6	18	188
3. Res - Multi-Family	1262.00 DU	114	531	645	543	252	795	8165
4. Res - Mobile Home Park	8.20 ACRE	4	21	25	23	13	36	321
5. Light Industrial	5625.91 TSF	4275	901	5176	675	4840	5515	39214
6. Heavy Industrial	31680.77 TSF	23125	1580	24705	12671	11088	23759	121971
7. Distribution Center	5565.71 TSF	388	110	498	223	446	669	4397
8. General Office	1985.19 TSF	3357	416	3773	635	3075	3710	27852
9. Medical Office	53.50 TSF	109	32	141	66	154	220	1828
10. Comm'l Ctr (100 TSF & up)	909.49 TSF	573	337	910	1947	1947	3894	41409
11. General Comm'l (<100 TSF)	1040.07 TSF	1062	626	1688	3412	3412	6824	73501
12. Freeway Commercial	835.14 TSF	853	501	1354	2740	2740	5480	59020
13. Bank (Walk-In)	40.59 TSF	127	72	199	310	395	705	5707
14. Fast Food Restaurant	4.58 TSF	65	63	128	44	41	85	1447
15. Service Station	6.00 STAT	13	12	25	29	29	58	450
18. Motel	16.00 ROOM	4	7	11	5	4	9	163
19. Hotel	70.00 ROOM	28	19	47	29	25	54	609
20. Church	100.84 TSF	47	27	74	39	34	73	940
21. Fire Station	2.00 STAT	12	0	12	0	12	12	60
22. Cemetery	21.48 ACRE	0	0	0	0	0	0	90
23. Elementary/Jr High School	1338.00 STU	241	160	401	27	41	68	1459
24. High School	2621.00 STU	734	340	1074	52	157	209	3617
25. Park/Recreation	49.78 ACRE	3	2	5	5	5	10	111
27. Civic Center	195.07 TSF	390	49	439	174	384	558	4877
28. Storage	6.00 SG	0	0	0	0	0	0	120
29. Community/Cultural Center	4.00 SG	0	0	0	0	0	0	200
30. Utility	4.00 SG	0	0	0	0	0	0	40
31. Swap Meet	7.10 PKAC	71	71	142	71	71	142	1420
33. Open Space/Ag/ROW	48.29 ACRE	0	0	0	0	0	0	0
34. Public Works Yard	1.00 SG	0	0	0	0	0	0	200
35. Fire Station HQ	1.00 SG	0	0	0	0	0	0	80
36. Parking Lot	54.00 LOT	0	0	0	0	0	0	0
37. Vacant	766.59 ACRE	0	0	0	0	0	0	0
38. Day Care Center	260.00 STU	114	99	213	99	117	216	1209
41. Auto Service Center	43.64 TSF	48	7	55	39	58	97	873
42. Drive-In Theater	1586.00 PKSP	0	0	0	0	0	0	3172
TOTAL		36331	7655	43986	25862	30402	56264	433523

## SFSTM - EXISTING (1992) SPECIAL STUDY AREA ONLY ZONAL LAND USE AND TRIP GENERATION

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
16	5. Light Industrial	123.99 TSF	94	20	114	15	107	122	864
	7. Distribution Center	42.34 TSF	3	1	4	2	3	5	33
	15. Service Station	1.00 STAT	2	2	4	5	5	10	75
	37. Vacant	75.52 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		99	23	122	22	115	137	972
17	37. Vacant	16.03 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
24	5. Light Industrial	65.69 TSF	50	11	61	8	56	64	458
	13. Bank (Walk-In)	23.88 TSF	75	42	117	182	232	414	3358
	28. Storage	1.00 SG	0	0	0	0	0	0	20
	33. Open Space/Ag/ROW	0.37 ACRE	0	0	0	0	0	0	0
	37. Vacant	37.45 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		125	53	178	190	288	478	3836
25	5. Light Industrial	211.42 TSF	161	34	195	25	182	207	1474
	6. Heavy Industrial	534.75 TSF	390	27	417	214	187	401	2059
	37. Vacant	7.30 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		551	61	612	239	369	608	3533
26	37. Vacant	1.42 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
27	37. Vacant	6.01 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
28	37. Vacant	19.98 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
35	5. Light Industrial	1.31 TSF	1	0	1	0	1	1	9
	13. Bank (Walk-In)	1.31 TSF	4	2	6	10	13	23	184
	37. Vacant	17.47 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		5	2	7	10	14	24	193
38	37. Vacant	24.59 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
46	37. Vacant	147.28 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
47	37. Vacant	63.57 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0
48	5. Light Industrial	232.13 TSF	176	37	213	28	200	228	1618
	SUB-TOTAL		176	37	213	28	200	228	1618
49	37. Vacant	42.05 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		0	0	0	0	0	0	0



SFSTM - EXISTING (1992) SPECIAL STUDY AREA ONLY LAND USE AND TRIP GENERATION SUMMARY

Special Study Area*	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
1	5. Light Industrial	190.99 TSF	145	31	176	23	164	187	1331
	7. Distribution Center	42.34 TSF	3	1	4	2	3	5	33
	13. Bank (Walk-In)	25.19 TSF	79	44	123	192	245	437	3542
	15. Service Station	1.00 STAT	2	2	4	5	5	10	75
	28. Storage	1.00 SG	0	0	0	0	0	0	20
	33. Open Space/Ag/ROW	0.37 ACRE	0	0	0	0	0	0	0
	37. Vacant	177.07 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		229	78	307	222	417	639	5001
2	5. Light Industrial	211.42 TSF	161	34	195	25	182	207	1474
	6. Heavy Industrial	534.75 TSF	390	27	417	214	187	401	2059
	37. Vacant	28.70 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		551	61	612	239	369	608	3533
3	5. Light Industrial	232.13 TSF	176	37	213	28	200	228	1618
	37. Vacant	252.90 ACRE	0	0	0	0	0	0	0
	SUB-TOTAL		176	37	213	28	200	228	1618

SPECIAL STUDY AREAS TOTAL

5. Light Industrial	634.54 TSF	482	102	584	76	546	622	4423
6. Heavy Industrial	534.75 TSF	390	27	417	214	187	401	2059
7. Distribution Center	42.34 TSF	3	1	4	2	3	5	33
13. Bank (Walk-In)	25.19 TSF	79	44	123	192	245	437	3542
15. Service Station	1.00 STAT	2	2	4	5	5	10	75
28. Storage	1.00 SG	0	0	0	0	0	0	20
33. Open Space/Ag/ROW	0.37 ACRE	0	0	0	0	0	0	0
37. Vacant	458.67 ACRE	0	0	0	0	0	0	0
TOTAL		956	176	1132	489	986	1475	10152

\* SFSTM - SPECIAL STUDY AREA ZONAL CORRESPONDENCE:

Special Study Area 1	16	17	24	27	35	38
Special Study Area 2	25	26	28			
Special Study Area 3	46	47	48	49		

SFSTM - P-2010 SPECIAL STUDY AREA ONLY (BUILDOUT) ZONAL LAND USE AND TRIP GENERATION

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
16	5. Light Industrial	884.27 TSF	672	141	813	106	760	866	6163
	39. Business Park	442.13 TSF	610	106	716	146	508	654	6353
	SUB-TOTAL		1282	247	1529	252	1268	1520	12516
17	5. Light Industrial	152.46 TSF	116	24	140	18	131	149	1063
	39. Business Park	91.48 TSF	126	22	148	30	105	135	1315
	SUB-TOTAL		242	46	288	48	236	284	2378
24	5. Light Industrial	426.89 TSF	324	68	392	51	367	418	2975
	39. Business Park	213.44 TSF	295	51	346	70	245	315	3067
	SUB-TOTAL		619	119	738	121	612	733	6042
25	5. Light Industrial	655.58 TSF	498	105	603	79	564	643	4569
	SUB-TOTAL		498	105	603	79	564	643	4569
26	5. Light Industrial	213.44 TSF	162	34	196	26	184	210	1488
	SUB-TOTAL		162	34	196	26	184	210	1488
27	5. Light Industrial	45.74 TSF	35	7	42	5	39	44	319
	39. Business Park	45.74 TSF	63	11	74	15	53	68	657
	SUB-TOTAL		98	18	116	20	92	112	976
28	5. Light Industrial	304.92 TSF	232	49	281	37	262	299	2125
	SUB-TOTAL		232	49	281	37	262	299	2125
35	5. Light Industrial	152.46 TSF	116	24	140	18	131	149	1063
	39. Business Park	106.72 TSF	147	26	173	35	123	158	1534
	SUB-TOTAL		263	50	313	53	254	307	2597
38	5. Light Industrial	304.92 TSF	232	49	281	37	262	299	2125
	39. Business Park	76.23 TSF	105	18	123	25	88	113	1095
	SUB-TOTAL		337	67	404	62	350	412	3220
46	5. Light Industrial	1082.47 TSF	823	173	996	130	931	1061	7545
	39. Business Park	609.84 TSF	842	146	988	201	701	902	8763
	SUB-TOTAL		1665	319	1984	331	1632	1963	16308
47	39. Business Park	259.18 TSF	358	62	420	86	298	384	3724
	5. Light Industrial	609.84 TSF	463	98	561	73	524	597	4251
	SUB-TOTAL		821	160	981	159	822	981	7975
48	5. Light Industrial	228.69 TSF	174	37	211	27	197	224	1594
	SUB-TOTAL		174	37	211	27	197	224	1594
49	5. Light Industrial	625.09 TSF	475	100	575	75	538	613	4357
	SUB-TOTAL		475	100	575	75	538	613	4357

SFSTM - P-2010 SPECIAL STUDY AREA ONLY (BUILDOUT) LAND USE AND TRIP GENERATION

Special Study Area*	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
1	5. Light Industrial	1966.74 TSF	1495	315	1810	236	1691	1927	13708
	39. Business Park	975.74 TSF	1347	234	1581	322	1122	1444	14021
	SUB-TOTAL		2842	549	3391	558	2813	3371	27729
2	5. Light Industrial	1173.94 TSF	892	188	1080	141	1010	1151	8182
	SUB-TOTAL		892	188	1080	141	1010	1151	8182
3	5. Light Industrial	2546.09 TSF	1935	407	2342	306	2190	2496	17746
	39. Business Park	869.02 TSF	1199	209	1408	287	999	1286	12488
	SUB-TOTAL		3134	616	3750	593	3189	3782	30234
SPECIAL STUDY AREAS TOTAL									
	5. Light Industrial	5686.77 TSF	4322	909	5231	682	4890	5572	39637
	39. Business Park	1844.76 TSF	2546	442	2988	608	2121	2729	26508
	TOTAL		6868	1351	8219	1290	7011	8301	66145

\* SFSTM - SPECIAL STUDY AREA ZONAL CORRESPONDENCE:

Special Study Area 1	16	17	24	27	35	38
Special Study Area 2	25	26	28			
Special Study Area 3	46	47	48	49		



SFSTM - P-2010 SPECIAL STUDY AREA ONLY (GOLF COURSE ALT.) ZONAL LAND USE AND TRIP GENERATION

Zone	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
16	40. Golf Course	87.00 ACRE	19	4	23	7	27	34	725
	SUB-TOTAL		19	4	23	7	27	34	725
17	5. Light Industrial	152.46 TSF	116	24	140	18	131	149	1063
	39. Business Park	91.48 TSF	126	22	148	30	105	135	1315
	SUB-TOTAL		242	46	288	48	236	284	2378
24	40. Golf Course	43.00 ACRE	9	2	11	3	13	16	358
	SUB-TOTAL		9	2	11	3	13	16	358
25	5. Light Industrial	655.58 TSF	498	105	603	79	564	643	4569
	SUB-TOTAL		498	105	603	79	564	643	4569
26	5. Light Industrial	213.44 TSF	162	34	196	26	184	210	1488
	SUB-TOTAL		162	34	196	26	184	210	1488
27	39. Business Park	91.48 TSF	126	22	148	30	105	135	1315
	SUB-TOTAL		126	22	148	30	105	135	1315
28	5. Light Industrial	304.92 TSF	232	49	281	37	262	299	2125
	SUB-TOTAL		232	49	281	37	262	299	2125
35	5. Light Industrial	106.72 TSF	81	17	98	13	92	105	744
	39. Business Park	152.46 TSF	210	37	247	50	175	225	2191
	SUB-TOTAL		291	54	345	63	267	330	2935
38	5. Light Industrial	228.69 TSF	174	37	211	27	197	224	1594
	39. Business Park	152.46 TSF	210	37	247	50	175	225	2191
	SUB-TOTAL		384	74	458	77	372	449	3785
46	5. Light Industrial	1082.47 TSF	823	173	996	130	931	1061	7545
	39. Business Park	609.84 TSF	842	146	988	201	701	902	8763
	SUB-TOTAL		1665	319	1984	331	1632	1963	16308
47	39. Business Park	259.18 TSF	358	62	420	86	298	384	3724
	5. Light Industrial	609.84 TSF	463	98	561	73	524	597	4251
	SUB-TOTAL		821	160	981	159	822	981	7975
48	5. Light Industrial	228.69 TSF	174	37	211	27	197	224	1594
	SUB-TOTAL		174	37	211	27	197	224	1594
49	5. Light Industrial	625.09 TSF	475	100	575	75	538	613	4357
	SUB-TOTAL		475	100	575	75	538	613	4357

SFSTM - P-2010 SPECIAL STUDY AREA ONLY (GOLF COURSE ALT.) LAND USE AND TRIP GENERATION

Special Study Area*	Land Use Type	Units	-- AM Peak Hour --			-- PM Peak Hour --			ADT
			In	Out	Total	In	Out	Total	
1	5. Light Industrial	487.87 TSF	371	78	449	59	420	479	3400
	39. Business Park	487.88 TSF	673	117	790	161	561	722	7011
	40. Golf Course	130.00 ACRE	29	7	36	10	40	50	1083
	SUB-TOTAL		1073	202	1275	230	1021	1251	11494
2	5. Light Industrial	1173.94 TSF	892	188	1080	141	1010	1151	8182
	SUB-TOTAL		892	188	1080	141	1010	1151	8182
3	5. Light Industrial	2546.09 TSF	1935	407	2342	306	2190	2496	17746
	39. Business Park	869.02 TSF	1199	209	1408	287	999	1286	12488
	SUB-TOTAL		3134	616	3750	593	3189	3782	30234

SPECIAL STUDY AREAS TOTAL

5. Light Industrial	4207.90 TSF	3198	674	3872	505	3620	4125	29330
39. Business Park	1356.90 TSF	1872	326	2198	447	1559	2006	19499
40. Golf Course	130.00 ACRE	28	6	34	10	40	50	1083
TOTAL		5098	1006	6104	962	5219	6181	49912

\* SFSTM - SPECIAL STUDY AREA ZONAL CORRESPONDENCE:

Special Study Area 1	16	17	24	27	35	38
Special Study Area 2	25	26	28			
Special Study Area 3	46	47	48	49		

## APPENDIX B

### INTERSECTION CAPACITY UTILIZATION WORKSHEETS

Peak hour intersection volume/capacity ratios are calculated by means of intersection capacity utilization (ICU) values. ICU calculations were performed for the intersections shown in Figure B-1.

For simplicity, signalization is assumed at each intersection; precise ICU calculations of existing non-signalized intersections would require a more detailed analysis. Depending on the control type, actual capacity could be higher or lower than what is given in the ICU. For instance, at a two-way stop-sign controlled intersection, capacity on the major street would be higher than what is shown on the ICU and capacity on the side street would be lower. At an intersection controlled with a four-way stop sign, actual capacity for each approach would be lower than what is given in the ICU.

The ICU procedure is based on the critical movement methodology, and shows the amount of capacity utilized by each critical move. The methodology also incorporates a check for right-turn capacity utilization. Both right-turn-on-green (RTOG) and right-turn-on-red (RTOR) capacity availability are calculated and checked against the total right-turn capacity need. If insufficient capacity is available, then an adjustment is made to the total capacity utilization value. The following example shows how this adjustment is made:

#### Example For Northbound Right:

##### 1. Right-Turn-On-Green (RTOG)

If NBT is critical move, then:

$$\text{RTOG} = \text{V/C (NBT)}$$

Otherwise,

$$\text{RTOG} = \text{V/C (NBL)} + \text{V/C (SBT)} - \text{V/C (SBL)}$$

##### 2. Right-Turn-On-Red (RTOR)

If WBL is critical move, then:

$$\text{RTOR} = \text{V/C (WBL)}$$

Otherwise,

$$\text{RTOR} = \text{V/C (EBL)} + \text{V/C (WBT)} - \text{V/C (EBT)}$$



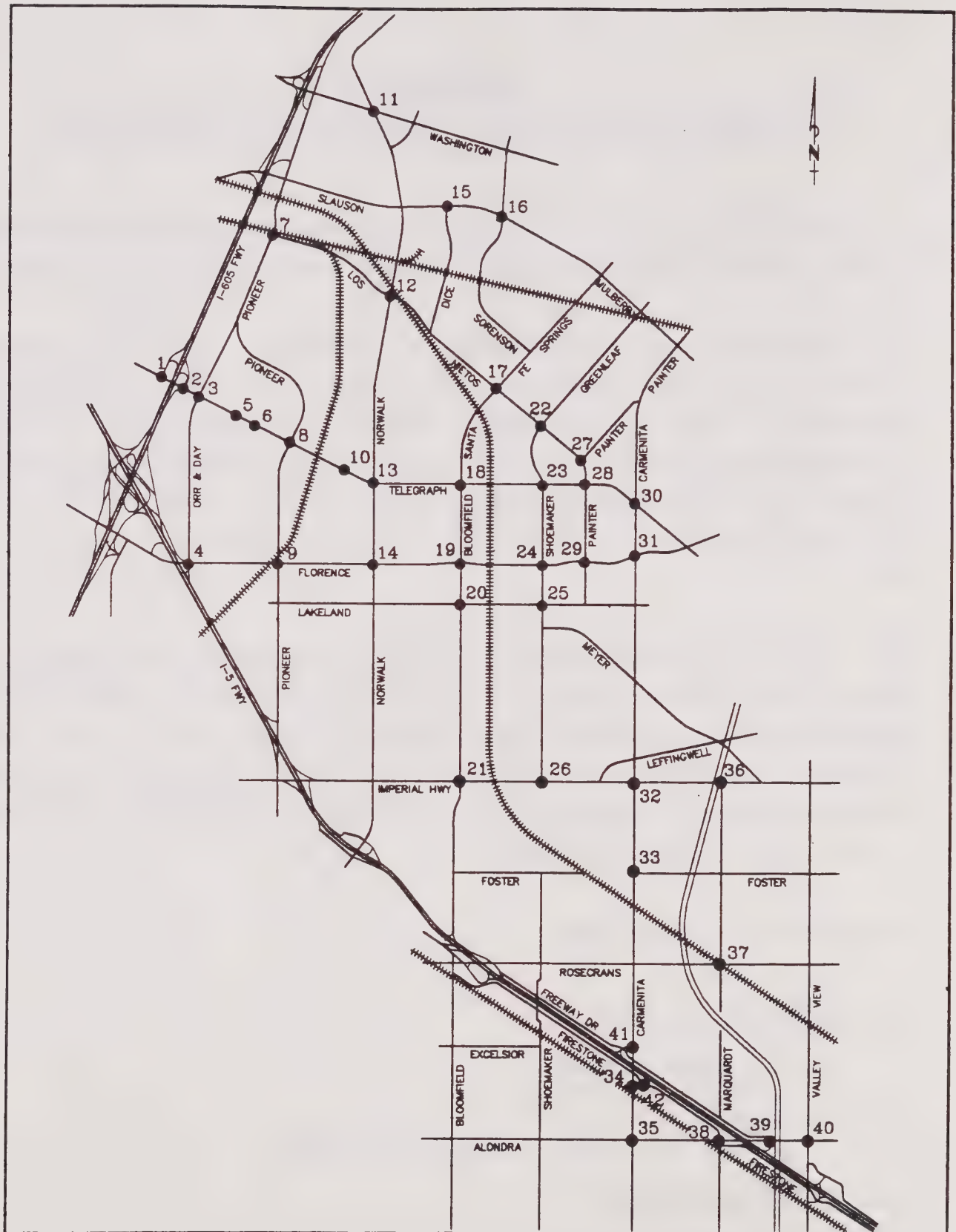


Figure B-1  
INTERSECTION LOCATION MAP

### 3. Right-Turn Overlap Adjustment

If the northbound right is assumed to overlap with the adjacent westbound left, adjustments to the RTOG and RTOR values are made as follows:

$$\begin{aligned} \text{RTOG} &= \text{RTOG} + \text{V/C (WBL)} \\ \text{RTOR} &= \text{RTOR} - \text{V/C (WBL)} \end{aligned}$$

### 4. Total Right-Turn Capacity (RTC) Availability For NBR

$$\text{RTC} = \text{RTOG} + \text{factor} \times \text{RTOR}$$

Where factor = specified RTOR saturation flow factor

$$\text{Right-turn adjustment is then as follows: Additional ICU} = \text{V/C (NBR)} - \text{RTC}$$

A negative value indicates that adequate capacity is available and no adjustment is necessary.

## **Shared Lane V/C Methodology**

For intersection approaches where shared usage of a lane is permitted by more than one turn movement (e.g., left/thru, thru/right, left/thru/right), the individual turn volumes are evaluated to determine whether dedication of the shared lane is warranted to any one given turn movement. The following example demonstrates how this evaluation is carried out:

### **Example for Shared Left/Thru Lane:**

#### 1. Average Lane Volume (ALV)

$$\text{ALV} = \frac{\text{Left-Turn Volume} + \text{Thru Volume}}{\text{Total Left} + \text{Thru Approach Lanes (including shared lane)}}$$

#### 2. ALV for Each Approach

$$\text{ALV (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Lanes (including shared lane)}}$$

$$\text{ALV (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Lanes (including shared lane)}}$$

### 3. Lane Dedication is Warranted

If ALV (Left) is greater than ALV then full dedication of the shared lane to the left-turn approach is warranted. Left-turn and thru V/C ratios for this case are calculated as follows:

$$V/C \text{ (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (including shared lane)}}$$

$$V/C \text{ (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Capacity (excluding shared lane)}}$$

Similarly, if ALV (Thru) is greater than ALV then full dedication to the thru approach is warranted, and left-turn and thru V/C ratios are calculated as follows:

$$V/C \text{ (Left)} = \frac{\text{Left-Turn Volume}}{\text{Left Approach Capacity (excluding shared lane)}}$$

$$V/C \text{ (Thru)} = \frac{\text{Thru Volume}}{\text{Thru Approach Capacity (including shared lane)}}$$

### 4. Lane Dedication is not Warranted

If ALV (Left) and ALV (Thru) are both less than ALV, the left/thru lane is assumed to be truly shared and each left, left/thru or thru approach lane carries an evenly distributed volume of traffic equal to ALV. A combined left/thru V/C ratio is calculated as follows:

$$V/C \text{ (Left/Thru)} = \frac{\text{Left-Turn Volume} + \text{Thru Volume}}{\text{Total Left} + \text{Thru Approach Capacity (including shared lane)}}$$

This V/C (Left/Thru) ratio is assigned as the V/C (Thru) ratio for the critical movement analysis and ICU summary listing.

If split phasing has not been designated for this approach, the relative proportion of V/C (Thru) that is attributed to the left-turn volume is estimated as follows:



If approach has more than one left-turn (including shared lane), then:

$$V/C \text{ (Left)} = V/C \text{ (Thru)}$$

If approach has only one left-turn lane (shared lane), then:

$$V/C \text{ (Left)} = \frac{\text{Left-Turn Volume}}{\text{Single Approach Lane Capacity}}$$

If this left-turn movement is determined to be a critical movement, the V/C (Left) value is posted in brackets on the ICU summary printout.

These same steps are carried out for shared thru/right lanes. If full dedication of a shared thru/right lane to the right-turn movement is warranted, the right-turn V/C value calculated in step three is checked against the RTOR and RTOG capacity availability if the option to include right-turns in the V/C ratio calculations is selected.

When an approach contains more than one shared lane (e.g., left/thru and thru/right), steps one and two listed above are carried out for the three turn movements combined. Step four is carried out if dedication is not warranted for either of the shared lanes. If dedication of one of the shared lanes is warranted to one movement or another, step three is carried out for the two movements involved, and then steps one through four are repeated for the two movements involved in the other shared lane.

A level of service (LOS) scale is used to evaluate intersection performance based on the ICU values. The levels range from "A" to "F," with LOS "A" representing free flow traffic and LOS "F" representing severe traffic congestion. Table B-1 describes each LOS and provides its corresponding ICU equivalent.

Table B-1

## PEAK HOUR LEVEL OF SERVICE DESCRIPTIONS

LEVEL OF SERVICE	TRAFFIC FLOW QUALITY	ICU VALUE
A	Low volumes; high speeds; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.	0.00 - 0.60
B	Operating speeds beginning to be affected by other traffic; between one and 10 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	0.61 - 0.70
C	Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standards.	0.71 - 0.80
D	Tolerable operating speeds; 31 to 70 percent of the signal cycle have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.	0.81 - 0.90
E	Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	0.91 - 1.00
F	Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can drop to zero; traffic volume will be less than the volume which occurs at Level of Service "E."	Above 1.00

Source: Highway Capacity Manual, Highway Research Board Special Report 87, National Academy of Sciences, Washington D.C., 1965, Page 320

Definitions: **Peak Traffic Period** - The period of time in which the greatest number of vehicle trips are traveling on given roadways.

**Signal Cycle** - Any complete sequence of signal indications.

**Queue** - A line of vehicles.

# 1. I-605 SB Ramps & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	19		15	
NBT	1	1600	21	.03*	5	.02*
NBR	0	0	10		15	
SBL	1.5		403	{.13}*	320	{.10}*
SBT	0.5	3200	2	.13	4	.10
SBR	1	1600	154	.10	103	.06
EBL	1	1600	272	.17*	156	.10*
EBT	3	4800	736	.16	1436	.31
EBR	0	0	24		28	
WBL	1	1600	8	.01	16	.01
WBT	2	3200	1559	.49*	973	.30*
WBR	1	1600	787	.49	1017	.64
Right Turn Adjustment Clearance Interval					WBR	.26*
				.05*		.05*
TOTAL CAPACITY UTILIZATION				.87		.83

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	19		15	
NBT	1	1600	21	.03*	5	.02*
NBR	0	0	10		15	
SBL	1.5		428	{.13}*	335	{.11}*
SBT	0.5	3200	2	.13	4	.11
SBR	1	1600	155	.10	116	.07
EBL	1	1600	385	.24*	188	.12*
EBT	3	4800	1058	.23	1516	.32
EBR	0	0	24		28	
WBL	1	1600	8	.01	16	.01
WBT	2	3200	1617	.51*	1353	.42*
WBR	1	1600	852	.53	1369	.86
Right Turn Adjustment Clearance Interval					WBR	.36*
				.05*		.05*
TOTAL CAPACITY UTILIZATION				.96		1.08



# 1. I-605 SB Ramps & Telegraph

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	19		15	
NBT	1	1600	21	.03*	5	.02*
NBR	0	0	10		15	
SBL	1.5		428	{.13}*	335	{.11}*
SBT	0.5	3200	2	.13	4	.11
SBR	1	1600	155	.10	116	.07
EBL	1	1600	385	.24*	188	.12*
EBT	3	4800	1058	.23	1516	.32
EBR	0	0	24		28	
WBL	1	1600	8	.01	16	.01
WBT	2	3200	1617	.51*	1353	.42*
WBR	f		852		1369	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.96		.72

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	17		13	
NBT	1	1600	19	.03*	4	.02*
NBR	0	0	9		13	
SBL	1.5		385	{.12}*	301	{.10}*
SBT	0.5	3200	2	.12	4	.10
SBR	1	1600	139	.09	104	.07
EBL	1	1600	346	.22*	169	.11*
EBT	3	4800	952	.20	1364	.29
EBR	0	0	22		25	
WBL	1	1600	7	.00	14	.01
WBT	2	3200	1455	.45*	1218	.38*
WBR	f		767		1232	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.87		.66

# 1. I-605 SB Ramps & Telegraph

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	19		15	
NBT	1	1600	21	.03*	5	.02*
NBR	0	0	10		15	
SBL	1.5		428	{.13}*	337	{.11}*
SBT	0.5	3200	2	.13	4	.11
SBR	1	1600	155	.10	116	.07
EBL	1	1600	385	.24*	189	.12*
EBT	3	4800	927	.20	1505	.32
EBR	0	0	24		28	
WBL	1	1600	8	.01	16	.01
WBT	2	3200	1601	.50*	1234	.39*
WBR	1	1600	821	.51	1147	.72
Right Turn Adjustment Clearance Interval					WBR	.25*
				.05*		.05*
TOTAL CAPACITY UTILIZATION				.95		.94

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	19		15	
NBT	1	1600	21	.03*	5	.02*
NBR	0	0	10		15	
SBL	1.5		428	{.13}*	337	{.11}*
SBT	0.5	3200	2	.13	4	.11
SBR	1	1600	155	.10	116	.07
EBL	1	1600	385	.24*	189	.12*
EBT	3	4800	927	.20	1505	.32
EBR	0	0	24		28	
WBL	1	1600	8	.01	16	.01
WBT	2	3200	1601	.50*	1234	.39*
WBR	f		821		1147	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.95		.69

# 1. I-605 SB Ramps & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	17		13	
NBT	1	1600	19	.03*	4	.02*
NBR	0	0	9		13	
SBL	1.5		385	{.12}*	303	{.10}*
SBT	0.5	3200	2	.12	4	.10
SBR	1	1600	139	.09	104	.07
EBL	1	1600	346	.22*	170	.11*
EBT	3	4800	834	.18	1354	.29
EBR	0	0	22		25	
WBL	1	1600	7	.00	14	.01
WBT	2	3200	1441	.45*	1111	.35*
WBR	f		739		1032	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.87		.63



## 2. I-605 NB/Bartley & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	53	.03*	35	.02
NBT	1	1600	21	.02	20	.03*
NBR	0	0	10		25	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	1	1600	414	.26	236	.15
EBL	1	1600	128	.08*	134	.08*
EBT	3	4800	2048	.43	2118	.46
EBR	0	0	10		70	
WBL	1	1600	15	.01	55	.03
WBT	3	4800	1891	.48*	1733	.45*
WBR	0	0	425		441	
Right Turn Adjustment Clearance Interval			SBR	.20* .05*	SBR	.08* .05*
TOTAL CAPACITY UTILIZATION				.84		.69

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	53	.03*	35	.02
NBT	1	1600	21	.02	20	.03*
NBR	0	0	10		25	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	1	1600	418	.26	275	.17
EBL	1	1600	137	.09*	141	.09*
EBT	3	4800	2386	.50	2206	.47
EBR	0	0	10		70	
WBL	1	1600	15	.01	55	.03
WBT	3	4800	2004	.51*	2378	.59*
WBR	0	0	435		467	
Right Turn Adjustment Clearance Interval			SBR	.19* .05*	SBR	.09* .05*
TOTAL CAPACITY UTILIZATION				.87		.85

## 2. I-605 NB/Bartley & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	48	.03*	31	.02
NBT	1	1600	19	.02	18	.03*
NBR	0	0	9		22	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	1	1600	376	.24	247	.15
EBL	1	1600	123	.08*	127	.08*
EBT	3	4800	2147	.45	1985	.43
EBR	0	0	9		63	
WBL	1	1600	13	.01	49	.03
WBT	3	4800	1804	.46*	2140	.53*
WBR	0	0	391		420	
Right Turn Adjustment Clearance Interval			SBR	.18* .05*	SBR	.08* .05*
TOTAL CAPACITY UTILIZATION				.80		.77

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	53	.03*	35	.02
NBT	1	1600	21	.02	20	.03*
NBR	0	0	10		25	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	1	1600	418	.26	275	.17
EBL	1	1600	137	.09*	141	.09*
EBT	3	4800	2255	.47	2197	.47
EBR	0	0	10		70	
WBL	1	1600	15	.01	55	.03
WBT	3	4800	1956	.50*	2037	.52*
WBR	0	0	435		466	
Right Turn Adjustment Clearance Interval			SBR	.19* .05*	SBR	.09* .05*
TOTAL CAPACITY UTILIZATION				.86		.78

## 2. I-605 NB/Bartley & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	48	.03*	31	.02
NBT	1	1600	19	.02	18	.03*
NBR	0	0	9		22	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	1	1600	376	.24	247	.15
EBL	1	1600	123	.08*	127	.08*
EBT	3	4800	2029	.42	1977	.43
EBR	0	0	9		63	
WBL	1	1600	13	.01	49	.03
WBT	3	4800	1760	.45*	1833	.47*
WBR	0	0	391		419	
Right Turn Adjustment			SBR	.18*	SBR	.08*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.71



### 3. Orr & Day & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	255	.08*	179	.06
NBT	2	3200	146	.08	216	.10*
NBR	0	0	114		102	
SBL	1	1600	54	.03	64	.04*
SBT	2	3200	198	.06*	188	.06
SBR	1	1600	245	.15	316	.20
EBL	1	1600	130	.08*	229	.14
EBT	3	4800	1606	.36	1798	.42*
EBR	0	0	118		224	
WBL	1	1600	76	.05	139	.09*
WBT	3	4800	1765	.37*	1645	.35
WBR	0	0	29		29	
Right Turn Adjustment			SBR	.03*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.67		.70

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	275	.09*	223	.07
NBT	2	3200	152	.09	225	.11*
NBR	0	0	129		112	
SBL	1	1600	54	.03	64	.04*
SBT	2	3200	198	.06*	188	.06
SBR	1	1600	258	.16	340	.21
EBL	1	1600	148	.09	236	.15*
EBT	3	4800	1898	.43*	1858	.44
EBR	0	0	146		245	
WBL	1	1600	76	.05*	139	.09
WBT	3	4800	1855	.39	2248	.47*
WBR	0	0	29		29	
Right Turn Adjustment			SBR	.03*	SBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.71		.84

### 3. Orr & Day & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	247	.08*	201	.06
NBT	2	3200	137	.08	202	.09*
NBR	0	0	116		101	
SBL	1	1600	49	.03	58	.04*
SBT	2	3200	178	.06*	169	.05
SBR	1	1600	232	.15	306	.19
EBL	1	1600	133	.08*	212	.13*
EBT	3	4800	1708	.38	1672	.39
EBR	0	0	131		220	
WBL	1	1600	68	.04	125	.08
WBT	3	4800	1669	.35*	2023	.43*
WBR	0	0	26		26	
Right Turn Adjustment Clearance Interval			SBR	.03* .05*	SBR	.02* .05*
TOTAL CAPACITY UTILIZATION				.65		.76

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	275	.09*	223	.07
NBT	2	3200	152	.09	225	.11*
NBR	0	0	129		112	
SBL	1	1600	54	.03	64	.04*
SBT	2	3200	198	.06*	188	.06
SBR	1	1600	258	.16	340	.21
EBL	1	1600	148	.09*	236	.15*
EBT	3	4800	1767	.40	1848	.44
EBR	0	0	146		246	
WBL	1	1600	76	.05	139	.09
WBT	3	4800	1807	.38*	1906	.40*
WBR	0	0	29		29	
Right Turn Adjustment Clearance Interval			SBR	.03* .05*	SBR	.02* .05*
TOTAL CAPACITY UTILIZATION				.70		.77

### 3. Orr & Day & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	247	.08*	201	.06
NBT	2	3200	137	.08	202	.09*
NBR	0	0	116		101	
SBL	1	1600	49	.03	58	.04*
SBT	2	3200	178	.06*	169	.05
SBR	1	1600	232	.15	306	.19
EBL	1	1600	133	.08*	212	.13*
EBT	3	4800	1590	.36	1663	.39
EBR	0	0	131		221	
WBL	1	1600	68	.04	125	.08
WBT	3	4800	1626	.34*	1715	.36*
WBR	0	0	26		26	
Right Turn Adjustment			SBR	.03*	SBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.64		.69



#### 4. Orr & Day & Florence

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1.5		181	{.07}*	227	{.09}*
NBT	1.5	4800	94	.07	111	.09
NBR	0		41		72	
SBL	1.5		229		202	
SBT	0.5	3200	42	.08*	61	.08*
SBR	2	3200	456	.14	481	.15
EBL	2	3200	339	.11*	432	.14*
EBT	2	3200	1075	.36	1420	.47
EBR	0	0	74		79	
WBL	1	1600	22	.01	32	.02
WBT	2	3200	1271	.40*	1304	.41*
WBR	1	1600	186	.12	165	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.71		.77

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1.5		181	{.07}*	227	{.09}*
NBT	1.5	4800	98	.07	120	.09
NBR	0		50		82	
SBL	1.5		242		203	
SBT	0.5	3200	42	.09*	61	.08*
SBR	2	3200	456	.14	481	.15
EBL	2	3200	361	.11	457	.14*
EBT	2	3200	2079	.67*	1627	.53
EBR	0	0	74		79	
WBL	1	1600	22	.01*	32	.02
WBT	2	3200	1389	.43	2011	.63*
WBR	1	1600	187	.12	170	.11
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.89		.99

#### 4. Orr & Day & Florence

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1.5		181	{.07}*	227	{.09}*
NBT	1.5	4800	98	.07	120	.09
NBR	0		50		82	
SBL	1.5		242		203	
SBT	0.5	3200	42	.09*	61	.08*
SBR	2	3200	456	.14	481	.15
EBL	2	3200	361	.11	457	.14*
EBT	3	4800	2079	.45*	1627	.36
EBR	0	0	74		79	
WBL	1	1600	22	.01*	32	.02
WBT	3	4800	1389	.29	2011	.42*
WBR	1	1600	187	.12	170	.11
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.67		.78

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1.5		163	{.06}*	204	{.08}*
NBT	1.5	4800	88	.06	108	.08
NBR	0		45		74	
SBL	1.5		218		183	
SBT	0.5	3200	38	.08*	55	.07*
SBR	2	3200	410	.13	433	.14
EBL	2	3200	325	.10	411	.13*
EBT	3	4800	1871	.40*	1464	.32
EBR	0	0	67		71	
WBL	1	1600	20	.01*	29	.02
WBT	3	4800	1250	.26	1810	.38*
WBR	1	1600	168	.11	153	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.60		.71

#### 4. Orr & Day & Florence

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1.5	4800	181	{.07}*	227	{.09}*
NBT	1.5		98	.07	120	.09
NBR	0		50		82	
SBL	1.5	3200	242		203	
SBT	0.5		42	.09*	61	.08*
SBR	2		456	.14	481	.15
EBL	2	3200	361	.11*	458	.14*
EBT	2	3200	1637	.53	1585	.52
EBR	0	0	74		79	
WBL	1	1600	22	.01	32	.02
WBT	2	3200	1364	.43*	1830	.57*
WBR	1	1600	187	.12	170	.11
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.75		.93

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1.5	4800	181	{.07}*	227	{.09}*
NBT	1.5		98	.07	120	.09
NBR	0		50		82	
SBL	1.5	3200	242		203	
SBT	0.5		42	.09*	61	.08*
SBR	2		456	.14	481	.15
EBL	2	3200	361	.11*	458	.14*
EBT	3	4800	1637	.36	1585	.35
EBR	0	0	74		79	
WBL	1	1600	22	.01	32	.02
WBT	3	4800	1364	.28*	1830	.38*
WBR	1	1600	187	.12	170	.11
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.60		.74



#### 4. Orr & Day & Florence

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1.5		163	{.06}*	204	{.08}*
NBT	1.5	4800	88	.06	108	.08
NBR	0		45		74	
SBL	1.5		218		183	
SBT	0.5	3200	38	.08*	55	.07*
SBR	2	3200	410	.13	433	.14
EBL	2	3200	325	.10*	412	.13*
EBT	3	4800	1473	.32	1426	.31
EBR	0	0	67		71	
WBL	1	1600	20	.01	29	.02
WBT	3	4800	1228	.26*	1647	.34*
WBR	1	1600	168	.11	153	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.55		.67

## 5. Jersey & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	28		30	
NBT	1	1600	53	.08*	48	.07*
NBR	0	0	53		35	
SBL	1	1600	27	.02*	40	.03*
SBT	1	1600	66	.04	42	.03
SBR	1	1600	80	.05	52	.03
EBL	1	1600	85	.05*	81	.05*
EBT	3	4800	1726	.36	1556	.33
EBR	0	0	20		40	
WBL	1	1600	33	.02	54	.03
WBT	3	4800	1902	.40*	1995	.42*
WBR	0	0	21		41	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.60		.62

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	28		30	
NBT	1	1600	53	.08*	48	.07*
NBR	0	0	53		36	
SBL	1	1600	35	.02*	44	.03*
SBT	1	1600	66	.04	42	.03
SBR	1	1600	91	.06	76	.05
EBL	1	1600	107	.07*	94	.06*
EBT	3	4800	2011	.42	1613	.34
EBR	0	0	20		40	
WBL	1	1600	34	.02	59	.04
WBT	3	4800	1981	.42*	2574	.55*
WBR	0	0	23		48	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.64		.76

## 5. Jersey & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	25		27	
NBT	1	1600	48	.08*	43	.06*
NBR	0	0	48		32	
SBL	1	1600	31	.02*	40	.03*
SBT	1	1600	59	.04	38	.02
SBR	1	1600	82	.05	68	.04
EBL	1	1600	96	.06*	85	.05*
EBT	3	4800	1810	.38	1452	.31
EBR	0	0	18		36	
WBL	1	1600	31	.02	53	.03
WBT	3	4800	1783	.38*	2317	.49*
WBR	0	0	21		43	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.59		.68

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	28		30	
NBT	1	1600	53	.08*	48	.07*
NBR	0	0	53		37	
SBL	1	1600	38	.02*	44	.03*
SBT	1	1600	66	.04	42	.03
SBR	1	1600	91	.06	76	.05
EBL	1	1600	107	.07*	94	.06*
EBT	3	4800	1880	.40	1603	.34
EBR	0	0	20		40	
WBL	1	1600	34	.02	57	.04
WBT	3	4800	1933	.41*	2232	.48*
WBR	0	0	23		50	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.63		.69



## 5. Jersey & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	25		27	
NBT	1	1600	48	.08*	43	.06*
NBR	0	0	48		33	
SBL	1	1600	34	.02*	40	.03*
SBT	1	1600	59	.04	38	.02
SBR	1	1600	82	.05	68	.04
EBL	1	1600	96	.06*	85	.05*
EBT	3	4800	1692	.36	1443	.31
EBR	0	0	18		36	
WBL	1	1600	31	.02	51	.03
WBT	3	4800	1740	.37*	2009	.43*
WBR	0	0	21		45	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.58		.62

## 6. Alburtis & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	10	.01*	34	.02*
NBT	1	1600	6	.01	16	.03
NBR	0	0	7		34	
SBL	1	1600	45	.03	124	.08
SBT	1	1600	9	.06*	9	.09*
SBR	0	0	90		133	
EBL	1	1600	156	.10*	121	.08*
EBT	3	4800	1493	.32	1645	.35
EBR	0	0	39		22	
WBL	1	1600	25	.02	17	.01
WBT	3	4800	1943	.42*	1590	.34*
WBR	0	0	54		34	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.64		.58

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	10	.01*	46	.03*
NBT	1	1600	6	.01	16	.03
NBR	0	0	7		34	
SBL	1	1600	46	.03	129	.08
SBT	1	1600	9	.06*	9	.09*
SBR	0	0	90		133	
EBL	1	1600	156	.10*	121	.08*
EBT	3	4800	1781	.38	1705	.36
EBR	0	0	44		24	
WBL	1	1600	26	.02	17	.01
WBT	3	4800	2025	.43*	2169	.46*
WBR	0	0	61		35	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.65		.71

## 6. Alburtis & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	9	.01*	41	.03*
NBT	1	1600	5	.01	14	.03
NBR	0	0	6		31	
SBL	1	1600	41	.03	116	.07
SBT	1	1600	8	.06*	8	.08*
SBR	0	0	81		120	
EBL	1	1600	140	.09*	109	.07*
EBT	3	4800	1603	.34	1534	.32
EBR	0	0	40		22	
WBL	1	1600	23	.01	15	.01
WBT	3	4800	1822	.39*	1952	.41*
WBR	0	0	55		31	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.60		.64

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.01*	44	.03*
NBT	1	1600	6	.01	16	.03
NBR	0	0	7		34	
SBL	1	1600	46	.03	129	.08
SBT	1	1600	9	.06*	9	.09*
SBR	0	0	90		133	
EBL	1	1600	156	.10*	121	.08*
EBT	3	4800	1653	.35	1696	.36
EBR	0	0	44		24	
WBL	1	1600	26	.02	17	.01
WBT	3	4800	1977	.42*	1829	.39*
WBR	0	0	62		35	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.64		.64



## 6. Alburtis & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	9	.01*	40	.03*
NBT	1	1600	5	.01	14	.03
NBR	0	0	6		31	
SBL	1	1600	41	.03	116	.07
SBT	1	1600	8	.06*	8	.08*
SBR	0	0	81		120	
EBL	1	1600	140	.09*	109	.07*
EBT	3	4800	1488	.32	1526	.32
EBR	0	0	40		22	
WBL	1	1600	23	.01	15	.01
WBT	3	4800	1779	.38*	1646	.35*
WBR	0	0	56		31	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.59		.58

## 7. Pioneer & Los Nietos

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	0	.00	13	.01
NBT	2	3200	297	.12*	498	.18*
NBR	0	0	99		74	
SBL	1	1600	203	.13*	161	.10*
SBT	2	3200	327	.10	430	.14
SBR	0	0	5		8	
EBL	0	0	7		9	{.01}*
EBT	1	1600	14	.03	3	.01
EBR	0	0	23		6	
WBL	1	1600	78	.05	204	.13
WBT	1	1600	8	.15*	13	.14*
WBR	0	0	230		209	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.45		.48

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	0	.00	13	.01
NBT	2	3200	322	.14*	599	.21*
NBR	0	0	111		79	
SBL	1	1600	227	.14*	172	.11*
SBT	2	3200	336	.11	437	.14
SBR	0	0	5		8	
EBL	0	0	7		9	{.01}*
EBT	1	1600	14	.03	3	.01
EBR	0	0	23		6	
WBL	1	1600	78	.05	214	.13
WBT	1	1600	8	.15*	13	.14*
WBR	0	0	230		218	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.48		.52

## 7. Pioneer & Los Nietos

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	0	.00	12	.01
NBT	2	3200	290	.12*	539	.19*
NBR	0	0	100		71	
SBL	1	1600	204	.13*	155	.10*
SBT	2	3200	302	.10	393	.13
SBR	0	0	4		7	
EBL	0	0	6		8	
EBT	1	1600	13	.02	3	.01
EBR	0	0	21		5	
WBL	1	1600	70	.04	193	.12
WBT	1	1600	7	.13*	12	.13*
WBR	0	0	207		196	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.43		.47

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	0	.00	13	.01
NBT	2	3200	319	.13*	580	.21*
NBR	0	0	111		79	
SBL	1	1600	227	.14*	172	.11*
SBT	2	3200	336	.11	438	.14
SBR	0	0	5		8	
EBL	0	0	7		9	{.01}*
EBT	1	1600	14	.03	3	.01
EBR	0	0	23		6	
WBL	1	1600	78	.05	214	.13
WBT	1	1600	8	.15*	13	.14*
WBR	0	0	230		218	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.47		.52



# 7. Pioneer & Los Nietos

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	0	.00	12	.01
NBT	2	3200	287	.12*	522	.19*
NBR	0	0	100		71	
SBL	1	1600	204	.13*	155	.10*
SBT	2	3200	302	.10	394	.13
SBR	0	0	4		7	
EBL	0	0	6		8	
EBT	1	1600	13	.02	3	.01
EBR	0	0	21		5	
WBL	1	1600	70	.04	193	.12
WBT	1	1600	7	.13*	12	.13*
WBR	0	0	207		196	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.43		.47

## 8. Pioneer & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	194	.12*	192	.12*
NBT	2	3200	197	.10	143	.07
NBR	0	0	136		85	
SBL	1	1600	76	.05	178	.11
SBT	2	3200	107	.05*	176	.09*
SBR	0	0	54		118	
EBL	1	1600	86	.05*	53	.03
EBT	3	4800	1327	.31	1525	.36*
EBR	0	0	163		213	
WBL	1	1600	48	.03	75	.05*
WBT	3	4800	1720	.38*	1435	.32
WBR	0	0	119		111	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.65		.67

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	205	.13*	211	.13*
NBT	2	3200	209	.11	153	.08
NBR	0	0	151		93	
SBL	1	1600	79	.05	178	.11
SBT	2	3200	111	.05*	179	.09*
SBR	0	0	54		120	
EBL	1	1600	87	.05*	53	.03*
EBT	3	4800	1601	.37	1580	.38
EBR	0	0	177		223	
WBL	1	1600	53	.03	85	.05
WBT	3	4800	1799	.40*	1994	.46*
WBR	0	0	132		209	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.68		.76

## 8. Pioneer & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	184	.12*	190	.12*
NBT	2	3200	188	.10	138	.07
NBR	0	0	136		84	
SBL	1	1600	71	.04	160	.10
SBT	2	3200	100	.05*	161	.08*
SBR	0	0	49		108	
EBL	1	1600	78	.05*	48	.03*
EBT	3	4800	1441	.33	1422	.34
EBR	0	0	159		201	
WBL	1	1600	48	.03	76	.05
WBT	3	4800	1619	.36*	1795	.41*
WBR	0	0	119		188	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.63		.69

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	206	.13*	213	.13*
NBT	2	3200	210	.11	155	.08
NBR	0	0	147		93	
SBL	1	1600	78	.05	178	.11
SBT	2	3200	111	.05*	180	.09*
SBR	0	0	54		120	
EBL	1	1600	87	.05*	53	.03
EBT	3	4800	1473	.34	1570	.37*
EBR	0	0	177		224	
WBL	1	1600	53	.03	81	.05*
WBT	3	4800	1751	.39*	1652	.38
WBR	0	0	129		191	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.67		.69



## 8. Pioneer & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	185	.12*	192	.12*
NBT	2	3200	189	.10	139	.07
NBR	0	0	132		84	
SBL	1	1600	70	.04	160	.10
SBT	2	3200	100	.05*	162	.08*
SBR	0	0	49		108	
EBL	1	1600	78	.05*	48	.03
EBT	3	4800	1326	.31	1413	.34*
EBR	0	0	159		202	
WBL	1	1600	48	.03	73	.05*
WBT	3	4800	1576	.35*	1487	.35
WBR	0	0	116		172	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.62		.64

## 9. Pioneer & Florence

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	291	.09*	226	.07*
NBT	2	3200	401	.15	228	.09
NBR	0	0	78		70	
SBL	1	1600	35	.02	78	.05
SBT	2	3200	189	.09*	387	.15*
SBR	0	0	98		86	
EBL	1	1600	209	.13*	80	.05
EBT	2	3200	1058	.38	1205	.44*
EBR	0	0	166		210	
WBL	1	1600	64	.04	94	.06*
WBT	2	3200	1175	.40*	1154	.38
WBR	0	0	108		46	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.77

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	300	.09	272	.09*
NBT	2	3200	425	.17*	251	.10
NBR	0	0	122		77	
SBL	1	1600	35	.02*	78	.05
SBT	2	3200	200	.09	406	.16*
SBR	0	0	100		94	
EBL	1	1600	235	.15	85	.05*
EBT	2	3200	2000	.69*	1381	.50
EBR	0	0	218		232	
WBL	1	1600	68	.04*	113	.07
WBT	2	3200	1274	.43	1818	.58*
WBR	0	0	108		46	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.97		.93

## 9. Pioneer & Florence

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	2	3200	300	.09	272	.09*
NBT	2	3200	425	.17*	251	.10
NBR	0	0	122		77	
SBL	1	1600	35	.02*	78	.05
SBT	2	3200	200	.09	406	.16*
SBR	0	0	100		94	
EBL	1	1600	235	.15	85	.05*
EBT	3	4800	2000	.46*	1381	.34
EBR	0	0	218		232	
WBL	1	1600	68	.04*	113	.07
WBT	3	4800	1274	.29	1818	.39*
WBR	0	0	108		46	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.74		.74

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	2	3200	270	.08	245	.08*
NBT	2	3200	382	.15*	226	.09
NBR	0	0	110		69	
SBL	1	1600	31	.02*	70	.04
SBT	2	3200	180	.08	365	.14*
SBR	0	0	90		85	
EBL	1	1600	211	.13	76	.05*
EBT	3	4800	1800	.42*	1243	.30
EBR	0	0	196		209	
WBL	1	1600	61	.04*	102	.06
WBT	3	4800	1147	.26	1636	.35*
WBR	0	0	97		41	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.68		.67

## 9. Pioneer & Florence

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	300	.09	273	.09*
NBT	2	3200	428	.17*	256	.10
NBR	0	0	105		75	
SBL	1	1600	35	.02*	78	.05
SBT	2	3200	200	.09	408	.16*
SBR	0	0	100		94	
EBL	1	1600	235	.15	85	.05*
EBT	2	3200	1558	.56*	1337	.49
EBR	0	0	219		233	
WBL	1	1600	66	.04*	106	.07
WBT	2	3200	1249	.42	1636	.53*
WBR	0	0	108		46	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		.88

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	270	.08	246	.08*
NBT	2	3200	385	.15*	230	.09
NBR	0	0	94		67	
SBL	1	1600	31	.02*	70	.04
SBT	2	3200	180	.08	367	.14*
SBR	0	0	90		85	
EBL	1	1600	211	.13	76	.05*
EBT	2	3200	1402	.50*	1203	.44
EBR	0	0	197		210	
WBL	1	1600	59	.04*	95	.06
WBT	2	3200	1124	.38	1472	.47*
WBR	0	0	97		41	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.79



## 10. Geary & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	29	{.02}*	145	{.09}*
NBT	1	1600	3	.02	6	.09
NBR	1	1600	10	.01	56	.04
SBL	1	1600	14	.01	55	.03
SBT	1	1600	3	.01*	3	.03*
SBR	0	0	16		43	
EBL	1	1600	41	.03*	17	.01
EBT	3	4800	952	.22	1679	.35*
EBR	0	0	92		19	
WBL	1	1600	41	.03	14	.01*
WBT	3	4800	1965	.42*	1235	.26
WBR	0	0	70		6	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.53		.53

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	29	{.02}*	152	
NBT	1	1600	3	.02	6	.10*
NBR	1	1600	10	.01	60	.04
SBL	1	1600	14	.01	56	.04*
SBT	1	1600	3	.01*	3	.03
SBR	0	0	16		46	
EBL	1	1600	45	.03*	18	.01*
EBT	3	4800	1230	.28	1739	.37
EBR	0	0	102		21	
WBL	1	1600	47	.03	15	.01
WBT	3	4800	2062	.44*	1892	.40*
WBR	0	0	73		7	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.55		.60

# 10. Geary & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	26	{.02}*	137	{.09}*
NBT	1	1600	3	.02	5	.09
NBR	1	1600	9	.01	54	.03
SBL	1	1600	13	.01	50	.03
SBT	1	1600	3	.01*	3	.03*
SBR	0	0	14		41	
EBL	1	1600	40	.03*	16	.01*
EBT	3	4800	1107	.25	1565	.33
EBR	0	0	92		19	
WBL	1	1600	42	.03	13	.01
WBT	3	4800	1856	.40*	1703	.36*
WBR	0	0	66		6	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.51		.54

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	29	{.02}*	152	
NBT	1	1600	3	.02	6	.10*
NBR	1	1600	10	.01	60	.04
SBL	1	1600	14	.01	56	.04*
SBT	1	1600	3	.01*	3	.03
SBR	0	0	16		46	
EBL	1	1600	45	.03*	18	.01
EBT	3	4800	1097	.25	1728	.36*
EBR	0	0	102		22	
WBL	1	1600	46	.03	14	.01*
WBT	3	4800	2011	.43*	1528	.32
WBR	0	0	73		7	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.54		.56

# 10. Geary & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	26 { .02 } *	137 { .09 } *		
NBT	1	1600	3 .02	5 .09		
NBR	1	1600	9 .01	54 .03		
SBL	1	1600	13 .01	50 .03		
SBT	1	1600	3 .01 *	3 .03 *		
SBR	0	0	14	41		
EBL	1	1600	40 .03 *	16 .01		
EBT	3	4800	987 .22	1555 .33 *		
EBR	0	0	92	20		
WBL	1	1600	41 .03	13 .01 *		
WBT	3	4800	1810 .39 *	1375 .29		
WBR	0	0	66	6		
Clearance Interval				.05 *		.05 *
TOTAL CAPACITY UTILIZATION				.50		.51

# 11. Norwalk & Washington

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	189	.12*	212	.13
NBT	2	3200	389	.12	831	.26*
NBR	1	1600	31	.02	55	.03
SBL	1	1600	165	.10	172	.11*
SBT	2	3200	512	.16*	452	.14
SBR	1	1600	129	.08	70	.04
EBL	1	1600	76	.05*	145	.09*
EBT	3	4800	834	.20	1537	.36
EBR	0	0	112		170	
WBL	1	1600	50	.03	83	.05
WBT	2	3200	1941	.65*	1192	.42*
WBR	0	0	134		161	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.03		.93

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	222	.14*	439	.27*
NBT	2	3200	393	.12	871	.27
NBR	1	1600	31	.02	57	.04
SBL	1	1600	173	.11	175	.11
SBT	2	3200	564	.18*	465	.15*
SBR	1	1600	129	.08	70	.04
EBL	1	1600	76	.05*	145	.09*
EBT	3	4800	884	.28	1577	.38
EBR	0	0	553	.35	260	
WBL	1	1600	50	.03	83	.05
WBT	2	3200	1953	.65*	1258	.45*
WBR	0	0	135		172	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.07		1.01



## 11. Norwalk & Washington

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	222	.14*	439	.27*
NBT	2	3200	393	.12	871	.27
NBR	1	1600	31	.02	57	.04
SBL	1	1600	173	.11	175	.11
SBT	2	3200	564	.18*	465	.15*
SBR	1	1600	129	.08	70	.04
EBL	1	1600	76	.05*	145	.09
EBT	3	4800	884	.28	1577	.38*
EBR	0	0	553	.35	260	
WBL	1	1600	50	.03	83	.05*
WBT	3	4800	1953	.44*	1258	.30
WBR	0	0	135		172	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.86		.90

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	200	.13*	395	.25*
NBT	2	3200	354	.11	784	.25
NBR	1	1600	28	.02	51	.03
SBL	1	1600	156	.10	157	.10
SBT	2	3200	508	.16*	418	.13*
SBR	1	1600	116	.07	63	.04
EBL	1	1600	68	.04*	130	.08
EBT	3	4800	796	.25	1419	.34*
EBR	0	0	498	.31	234	
WBL	1	1600	45	.03	75	.05*
WBT	3	4800	1758	.39*	1132	.27
WBR	0	0	121		155	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.77		.82

# 11. Norwalk & Washington

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	188	.12*	313	.20
NBT	2	3200	351	.11	771	.24*
NBR	1	1600	28	.02	50	.03
SBL	1	1600	156	.10	157	.10*
SBT	2	3200	492	.15*	417	.13
SBR	1	1600	116	.07	63	.04
EBL	1	1600	68	.04*	130	.08
EBT	3	4800	796	.23	1420	.34*
EBR	0	0	321		215	
WBL	1	1600	45	.03	75	.05*
WBT	3	4800	1758	.39*	1132	.27
WBR	0	0	121		155	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.75		.78

# 11. Norwalk & Washington

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	209	.13*	348	.22
NBT	2	3200	390	.12	857	.27*
NBR	1	1600	31	.02	56	.04
SBL	1	1600	173	.11	175	.11*
SBT	2	3200	547	.17*	463	.14
SBR	1	1600	129	.08	70	.04
EBL	1	1600	76	.05*	145	.09*
EBT	3	4800	884	.26	1578	.38
EBR	0	0	357		239	
WBL	1	1600	50	.03	83	.05
WBT	2	3200	1953	.65*	1258	.45*
WBR	0	0	135		172	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.05		.97

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	209	.13*	348	.22
NBT	2	3200	390	.12	857	.27*
NBR	1	1600	31	.02	56	.04
SBL	1	1600	173	.11	175	.11*
SBT	2	3200	547	.17*	463	.14
SBR	1	1600	129	.08	70	.04
EBL	1	1600	76	.05*	145	.09
EBT	3	4800	884	.26	1578	.38*
EBR	0	0	357		239	
WBL	1	1600	50	.03	83	.05*
WBT	3	4800	1953	.44*	1258	.30
WBR	0	0	135		172	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		.86

## 12. Norwalk & Los Nietos

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	34	.02*	58	.04
NBT	2	3200	434	.16	889	.30*
NBR	0	0	92		63	
SBL	1	1600	256	.16	130	.08*
SBT	2	3200	862	.30*	483	.18
SBR	0	0	84		84	
EBL	1	1600	40	.03	39	.02*
EBT	2	3200	167	.07*	213	.08
EBR	0	0	67		39	
WBL	1	1600	156	.10*	121	.08
WBT	2	3200	178	.10	278	.17*
WBR	0	0	157		298	.19
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.54		.62

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	39	.02	62	.04
NBT	2	3200	449	.17*	779	.27*
NBR	0	0	102		70	
SBL	1	1600	289	.18*	145	.09*
SBT	2	3200	706	.25	509	.19
SBR	0	0	93		97	
EBL	1	1600	44	.03	43	.03*
EBT	2	3200	186	.08*	237	.09
EBR	0	0	72		43	
WBL	1	1600	173	.11*	135	.08
WBT	2	3200	198	.12	309	.19*
WBR	0	0	175		335	.21
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.59		.63



## 12. Norwalk & Los Nietos

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	35	.02	60	.04
NBT	2	3200	420	.16*	662	.23*
NBR	0	0	102		70	
SBL	1	1600	161	.10*	107	.07*
SBT	2	3200	548	.19	475	.17
SBR	0	0	64		81	
EBL	1	1600	43	.03	36	.02*
EBT	2	3200	181	.08*	235	.09
EBR	0	0	72		42	
WBL	1	1600	173	.11*	135	.08
WBT	2	3200	197	.11	307	.16*
WBR	0	0	162		214	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.50		.53

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	38	.02	64	.04
NBT	2	3200	482	.18*	988	.33*
NBR	0	0	102		70	
SBL	1	1600	285	.18*	144	.09*
SBT	2	3200	958	.33	537	.20
SBR	0	0	93		93	
EBL	1	1600	44	.03	43	.03*
EBT	2	3200	186	.08*	237	.09
EBR	0	0	74		43	
WBL	1	1600	173	.11*	135	.08
WBT	2	3200	198	.12	309	.19*
WBR	0	0	175		331	.21
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.60		.69

### 13. Norwalk & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	165	.10*	177	.11*
NBT	2	3200	441	.15	441	.16
NBR	0	0	42		86	
SBL	1	1600	68	.04	137	.09
SBT	2	3200	409	.17*	533	.21*
SBR	0	0	142		146	
EBL	1	1600	184	.12*	159	.10
EBT	3	4800	776	.19	1646	.38*
EBR	0	0	143		175	
WBL	1	1600	87	.05	106	.07*
WBT	3	4800	1664	.37*	940	.21
WBR	0	0	103		73	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.81		.82

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	176	.11	243	.15*
NBT	2	3200	494	.31*	547	.23
NBR	0	0	690	.43	197	
SBL	1	1600	199	.12*	156	.10
SBT	2	3200	498	.20	559	.22*
SBR	0	0	144		151	
EBL	1	1600	188	.12*	161	.10
EBT	3	4800	1020	.25	1707	.39*
EBR	0	0	173		177	
WBL	1	1600	146	.09	517	.32*
WBT	3	4800	1757	.39*	1528	.34
WBR	0	0	118		125	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.99		1.13

## 12. Norwalk & Los Nietos

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	35	.02	56	.04
NBT	2	3200	404	.16*	701	.24*
NBR	0	0	92		63	
SBL	1	1600	260	.16*	130	.08*
SBT	2	3200	635	.22	458	.17
SBR	0	0	84		87	
EBL	1	1600	40	.03	39	.02*
EBT	2	3200	167	.07*	213	.08
EBR	0	0	65		39	
WBL	1	1600	156	.10*	121	.08
WBT	2	3200	178	.10	278	.17*
WBR	0	0	157		301	.19
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.54		.56

### 13. Norwalk & Telegraph

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	174	.11	231	.14*
NBT	2	3200	491	.20*	523	.20
NBR	0	0	135		105	
SBL	1	1600	173	.11*	158	.10
SBT	2	3200	457	.19	559	.22*
SBR	0	0	144		151	
EBL	1	1600	188	.12*	161	.10
EBT	3	4800	908	.22	1696	.39*
EBR	0	0	152		177	
WBL	1	1600	97	.06	197	.12*
WBT	3	4800	1707	.38*	1175	.27
WBR	0	0	117		124	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.86		.92

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	2	3200	174	.05	231	.07
NBT	2	3200	491	.20*	523	.20*
NBR	0	0	135		105	
SBL	1	1600	173	.11*	158	.10*
SBT	2	3200	457	.19	559	.22
SBR	0	0	144		151	
EBL	1	1600	188	.12*	161	.10
EBT	3	4800	908	.22	1696	.39*
EBR	0	0	152		177	
WBL	2	3200	97	.03	197	.06*
WBT	3	4800	1707	.38*	1175	.27
WBR	0	0	117		124	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.86		.80



### 13. Norwalk & Telegraph

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	176	.06	243	.08
NBT	2	3200	494	.31*	547	.23*
NBR	0	0	690	.43	197	
SBL	1	1600	199	.12*	156	.10*
SBT	2	3200	498	.20	559	.22
SBR	0	0	144		151	
EBL	1	1600	188	.12*	161	.10
EBT	3	4800	1020	.25	1707	.39*
EBR	0	0	173		177	
WBL	2	3200	146	.05	517	.16*
WBT	3	4800	1757	.39*	1528	.34
WBR	0	0	118		125	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.99		.93

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	158	.05	219	.07
NBT	2	3200	445	.28*	492	.21*
NBR	0	0	621	.39	177	
SBL	1	1600	179	.11*	140	.09*
SBT	2	3200	448	.18	503	.20
SBR	0	0	130		136	
EBL	1	1600	169	.11*	145	.09
EBT	3	4800	918	.22	1536	.35*
EBR	0	0	156		159	
WBL	2	3200	131	.04	465	.15*
WBT	3	4800	1581	.35*	1375	.31
WBR	0	0	106		112	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.90		.85

#### 14. Norwalk & Florence

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	148	.09	121	.08*
NBT	2	3200	639	.24*	412	.16
NBR	0	0	123		102	
SBL	1	1600	50	.03*	113	.07
SBT	2	3200	424	.16	673	.26*
SBR	0	0	97		150	
EBL	1	1600	169	.11*	108	.07
EBT	2	3200	719	.26	1187	.42*
EBR	0	0	117		156	
WBL	1	1600	116	.07	127	.08*
WBT	2	3200	1105	.39*	919	.31
WBR	0	0	143		60	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.82		.89

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	163	.10	210	.13*
NBT	2	3200	944	.35*	543	.20
NBR	0	0	181		106	
SBL	1	1600	72	.05*	117	.07
SBT	2	3200	501	.20	978	.42*
SBR	0	0	127		358	
EBL	1	1600	682	.43*	187	.12*
EBT	2	3200	1134	.40	1286	.45
EBR	0	0	148		163	
WBL	1	1600	123	.08	166	.10
WBT	2	3200	1161	.41*	1292	.43*
WBR	0	0	157		97	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.29		1.15

### 13. Norwalk & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	2	3200	157	.05	208	.07*
NBT	2	3200	442	.18*	471	.18
NBR	0	0	121		94	
SBL	1	1600	156	.10*	142	.09
SBT	2	3200	411	.17	503	.20*
SBR	0	0	130		136	
EBL	1	1600	169	.11*	145	.09
EBT	3	4800	817	.20	1526	.35*
EBR	0	0	137		159	
WBL	2	3200	87	.03	177	.06*
WBT	3	4800	1536	.34*	1057	.24
WBR	0	0	105		112	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.78		.73

#### 14. Norwalk & Florence

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	163	.10	210	.13*
NBT	2	3200	689	.26*	510	.19
NBR	0	0	135		106	
SBL	1	1600	73	.05*	117	.07
SBT	2	3200	463	.18	736	.29*
SBR	0	0	102		202	
EBL	1	1600	270	.17*	131	.08
EBT	2	3200	1087	.39	1296	.46*
EBR	0	0	148		163	
WBL	1	1600	119	.07	139	.09*
WBT	2	3200	1159	.41*	1259	.42
WBR	0	0	157		97	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.94		1.02

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	163	.10	210	.13*
NBT	2	3200	689	.26*	510	.19
NBR	0	0	135		106	
SBL	1	1600	73	.05*	117	.07
SBT	2	3200	463	.14	736	.23*
SBR	1	1600	102	.06	202	.13
EBL	1	1600	270	.17*	131	.08
EBT	3	4800	1087	.26	1296	.30*
EBR	0	0	148		163	
WBL	1	1600	119	.07	139	.09*
WBT	3	4800	1159	.27*	1259	.28
WBR	0	0	157		97	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.80		.80



#### 14. Norwalk & Florence

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	163	.10	210	.13*
NBT	2	3200	944	.35*	543	.20
NBR	0	0	181		106	
SBL	1	1600	72	.05*	117	.07
SBT	2	3200	501	.16	978	.31*
SBR	1	1600	127	.08	358	.22
EBL	2	3200	682	.21*	187	.06
EBT	3	4800	1134	.27	1286	.30*
EBR	0	0	148		163	
WBL	1	1600	123	.08	166	.10*
WBT	3	4800	1161	.27*	1292	.29
WBR	0	0	157		97	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.93

.89

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	147	.09	189	.12*
NBT	2	3200	850	.32*	489	.18
NBR	0	0	163		95	
SBL	1	1600	65	.04*	105	.07
SBT	2	3200	451	.14	880	.28*
SBR	1	1600	114	.07	322	.20
EBL	2	3200	614	.19*	168	.05
EBT	3	4800	1021	.24	1157	.27*
EBR	0	0	133		147	
WBL	1	1600	111	.07	149	.09*
WBT	3	4800	1045	.25*	1163	.26
WBR	0	0	141		87	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.85

.81

# 15. Dice & Slauson

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	13		49	
NBT	1	1600	0	.03*	0	.06*
NBR	0	0	34		52	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	980	.33	1256	.40*
EBR	0	0	74		23	
WBL	1	1600	54	.03	59	.04*
WBT	2	3200	1461	.46*	1025	.32
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.54		.55

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	13		49	
NBT	1	1600	0	.03*	0	.06*
NBR	0	0	34		52	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	2		20	
EBL	0	0	20	{.01}*	5	
EBT	2	3200	1054	.36	1296	.41*
EBR	0	0	74		23	
WBL	1	1600	56	.04	60	.04*
WBT	2	3200	1474	.46*	1072	.34
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.55		.56

# 14. Norwalk & Florence

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	147	.09	189	.12*
NBT	2	3200	620	.23*	459	.17
NBR	0	0	121		95	
SBL	1	1600	66	.04*	105	.07
SBT	2	3200	417	.13	662	.21*
SBR	1	1600	92	.06	182	.11
EBL	1	1600	243	.15*	118	.07
EBT	3	4800	978	.23	1166	.27*
EBR	0	0	133		147	
WBL	1	1600	107	.07	125	.08*
WBT	3	4800	1043	.25*	1133	.25
WBR	0	0	141		87	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.72		.73

15. Dice & Slauson

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	12		44	
NBT	1	1600	0	.03*	0	.06*
NBR	0	0	31		47	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	2		18	
EBL	0	0	18	{.01}*	4	
EBT	2	3200	949	.32	1166	.37*
EBR	0	0	67		21	
WBL	1	1600	50	.03	54	.03*
WBT	2	3200	1327	.41*	968	.30
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.50		.51



# 15. Dice & Slauson

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	12		44	
NBT	1	1600	0	.03*	0	.06*
NBR	0	0	31		47	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	2		18	
EBL	0	0	18	{.01}*	4	
EBT	2	3200	949	.32	1166	.37*
EBR	0	0	67		21	
WBL	1	1600	50	.03	54	.03*
WBT	2	3200	1327	.41*	965	.30
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.50		.51

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	13		49	
NBT	1	1600	0	.03*	0	.06*
NBR	0	0	34		52	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	2		20	
EBL	0	0	20	{.01}*	5	
EBT	2	3200	1054	.36	1296	.41*
EBR	0	0	74		23	
WBL	1	1600	56	.04	60	.04*
WBT	2	3200	1474	.46*	1076	.34
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.55		.56

# 16. Sorenson & Slauson

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	85	.05	94	.06
NBT	2	3200	108	.04*	189	.07*
NBR	0	0	6		30	
SBL	1	1600	190	.12*	329	.21*
SBT	2	3200	170	.08	137	.07
SBR	0	0	90		99	
EBL	1	1600	205	.13*	170	.11*
EBT	2	3200	623	.22	1119	.37
EBR	0	0	66		55	
WBL	1	1600	35	.02	28	.02
WBT	2	3200	1192	.45*	670	.29*
WBR	0	0	247		256	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.73

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	95	.06	104	.07
NBT	2	3200	120	.04*	210	.08*
NBR	0	0	7		33	
SBL	1	1600	212	.13*	366	.23*
SBT	2	3200	189	.09	152	.08
SBR	0	0	100		110	
EBL	1	1600	228	.14*	189	.12*
EBT	2	3200	692	.24	1243	.41
EBR	0	0	73		61	
WBL	1	1600	40	.03	32	.02
WBT	2	3200	1324	.50*	749	.32*
WBR	0	0	275		286	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.86		.80

# 16. Sorenson & Slauson

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	95	.06	104	.07
NBT	2	3200	120	.04*	206	.07*
NBR	0	0	7		30	
SBL	1	1600	194	.12*	350	.22*
SBT	2	3200	178	.09	146	.08
SBR	0	0	94		109	
EBL	1	1600	228	.14*	188	.12*
EBT	2	3200	629	.22	1208	.40
EBR	0	0	62		57	
WBL	1	1600	33	.02	26	.02
WBT	2	3200	1315	.49*	698	.30*
WBR	0	0	266		258	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		.76

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	95	.06	104	.07
NBT	2	3200	120	.04*	210	.08*
NBR	0	0	7		33	
SBL	1	1600	211	.13*	366	.23*
SBT	2	3200	189	.09	152	.08
SBR	0	0	100		110	
EBL	1	1600	228	.14*	189	.12*
EBT	2	3200	692	.24	1243	.41
EBR	0	0	73		61	
WBL	1	1600	39	.02	31	.02
WBT	2	3200	1324	.50*	745	.32*
WBR	0	0	274		285	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.86		.80

# 17. Sta Fe Springs & Los Nietos

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	87	.05	43	.03
NBT	2	3200	471	.17*	449	.15*
NBR	0	0	58		33	
SBL	1	1600	143	.09*	192	.12*
SBT	2	3200	476	.17	518	.18
SBR	0	0	82		55	
EBL	1	1600	42	.03*	98	.06*
EBT	1	1600	229	.16	372	.28
EBR	0	0	21		76	
WBL	1	1600	123	.08	59	.04
WBT	1	1600	491	.42*	321	.30*
WBR	0	0	185		164	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.68

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	91	.06	78	.05
NBT	2	3200	547	.19*	592	.20*
NBR	0	0	68		35	
SBL	1	1600	158	.10*	198	.12*
SBT	2	3200	595	.21	562	.19
SBR	0	0	83		56	
EBL	1	1600	45	.03*	98	.06*
EBT	1	1600	287	.22	395	.30
EBR	0	0	60		81	
WBL	1	1600	124	.08	60	.04
WBT	1	1600	501	.43*	389	.35*
WBR	0	0	191		178	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.80		.78



16. Sorenson & Slauson

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	85	.05	94	.06
NBT	2	3200	108	.04*	189	.07*
NBR	0	0	6		30	
SBL	1	1600	191	.12*	329	.21*
SBT	2	3200	170	.08	137	.07
SBR	0	0	90		99	
EBL	1	1600	205	.13*	170	.11*
EBT	2	3200	623	.22	1119	.37
EBR	0	0	66		55	
WBL	1	1600	36	.02	29	.02
WBT	2	3200	1192	.45*	674	.29*
WBR	0	0	247		257	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.73

# 17. Sta Fe Springs & Los Nietos

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	82	.05	70	.04
NBT	2	3200	482	.17*	474	.16*
NBR	0	0	59		30	
SBL	1	1600	144	.09*	178	.11*
SBT	2	3200	474	.17	499	.17
SBR	0	0	75		50	
EBL	1	1600	40	.03*	88	.06*
EBT	1	1600	262	.20	356	.27
EBR	0	0	54		73	
WBL	1	1600	111	.07	53	.03
WBT	1	1600	451	.39*	354	.32*
WBR	0	0	172		162	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.73		.70

# 17. Sta Fe Springs & Los Nietos

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	82	.05	70	.04
NBT	2	3200	492	.17*	533	.18*
NBR	0	0	61		31	
SBL	1	1600	142	.09*	178	.11*
SBT	2	3200	535	.19	506	.17
SBR	0	0	75		50	
EBL	1	1600	40	.03*	88	.06*
EBT	1	1600	258	.20	355	.27
EBR	0	0	54		73	
WBL	1	1600	112	.07	54	.03
WBT	1	1600	451	.39*	350	.32*
WBR	0	0	172		160	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.73		.72

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	91	.06	78	.05
NBT	2	3200	536	.19*	527	.18*
NBR	0	0	66		33	
SBL	1	1600	160	.10*	198	.12*
SBT	2	3200	527	.19	554	.19
SBR	0	0	83		56	
EBL	1	1600	45	.03*	98	.06*
EBT	1	1600	291	.22	396	.30
EBR	0	0	60		81	
WBL	1	1600	123	.08	59	.04
WBT	1	1600	501	.43*	393	.36*
WBR	0	0	191		180	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.80		.77

# 18. Santa Fe Springs & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	154	.10*	119	.07*
NBT	2	3200	511	.22	433	.17
NBR	0	0	207		118	
SBL	1	1600	31	.02	74	.05
SBT	2	3200	314	.14*	481	.21*
SBR	0	0	134		176	
EBL	1	1600	183	.11*	122	.08
EBT	3	4800	806	.19	1650	.37*
EBR	0	0	128		138	
WBL	1	1600	37	.02	139	.09*
WBT	3	4800	1707	.39*	976	.22
WBR	0	0	186		62	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.79

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	146	.09	124	.08*
NBT	2	3200	527	.24*	458	.18
NBR	0	0	237		114	
SBL	1	1600	35	.02*	82	.05
SBT	2	3200	341	.15	534	.23*
SBR	0	0	138		196	
EBL	1	1600	202	.13*	130	.08
EBT	3	4800	866	.21	1625	.36*
EBR	0	0	123		103	
WBL	1	1600	43	.03	160	.10*
WBT	3	4800	1786	.40*	1070	.23
WBR	0	0	121		55	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		.82



# 18. Santa Fe Springs & Telegraph

## Existing (1992) Count

	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C
NBL	1	1600	140 .09*	68 .04*
NBT	2	3200	480 .16	410 .15
NBR	0	0	41	70
SBL	1	1600	29 .02	80 .05
SBT	2	3200	312 .14*	517 .22*
SBR	0	0	133	179
EBL	1	1600	179 .11*	121 .08
EBT	3	4800	627 .14	1556 .34*
EBR	0	0	55	91
WBL	1	1600	25 .02	48 .03*
WBT	3	4800	1730 .39*	766 .17
WBR	0	0	118	43
Clearance Interval			.05*	.05*
TOTAL CAPACITY UTILIZATION			.78	.68

## Future Buildout

	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C
NBL	1	1600	171 .11	132 .08*
NBT	2	3200	568 .25*	481 .19
NBR	0	0	230	131
SBL	1	1600	35 .02*	82 .05
SBT	2	3200	349 .16	534 .23*
SBR	0	0	149	196
EBL	1	1600	203 .13*	136 .09
EBT	3	4800	896 .22	1833 .41*
EBR	0	0	142	153
WBL	1	1600	41 .03	154 .10*
WBT	3	4800	1897 .44*	1085 .24
WBR	0	0	207	69
Clearance Interval			.05*	.05*
TOTAL CAPACITY UTILIZATION			.89	.87

# 19. Bloomfield & Florence

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	99	.06	80	.05*
NBT	2	3200	415	.14*	369	.16
NBR	0	0	38		128	
SBL	1	1600	38	.02*	90	.06
SBT	2	3200	252	.09	522	.20*
SBR	0	0	50		111	
EBL	1	1600	96	.06*	65	.04
EBT	2	3200	603	.21	1180	.39*
EBR	0	0	69		78	
WBL	1	1600	119	.07	39	.02*
WBT	2	3200	1298	.42*	708	.23
WBR	0	0	41		24	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.69		.71

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	123	.08	205	.13*
NBT	2	3200	631	.23*	469	.21
NBR	0	0	108		196	
SBL	1	1600	45	.03*	109	.07
SBT	2	3200	343	.13	656	.27*
SBR	0	0	65		203	
EBL	1	1600	224	.14*	101	.06
EBT	2	3200	757	.29	1300	.44*
EBR	0	0	184		103	
WBL	1	1600	180	.11	113	.07*
WBT	2	3200	1340	.47*	867	.28
WBR	0	0	150		34	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.92		.96

# 18. Santa Fe Springs & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	131	.08	112	.07*
NBT	2	3200	474	.21*	412	.16
NBR	0	0	213		103	
SBL	1	1600	31	.02*	74	.05
SBT	2	3200	307	.13	481	.21*
SBR	0	0	124		176	
EBL	1	1600	182	.11*	117	.07
EBT	3	4800	779	.19	1462	.32*
EBR	0	0	111		93	
WBL	1	1600	39	.02	144	.09*
WBT	3	4800	1607	.36*	963	.21
WBR	0	0	109		49	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.75		.74

## 19. Bloomfield & Florence

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	115	.07	205	.13*
NBT	2	3200	582	.22*	455	.20
NBR	0	0	116		199	
SBL	1	1600	45	.03*	103	.06
SBT	2	3200	320	.12	608	.26*
SBR	0	0	67		209	
EBL	1	1600	239	.15*	106	.07
EBT	2	3200	762	.29	1275	.43*
EBR	0	0	179		96	
WBL	1	1600	182	.11	116	.07*
WBT	2	3200	1336	.44*	874	.28
WBR	0	0	61		29	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.89		.94

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	115	.07	205	.13*
NBT	2	3200	582	.22*	455	.20
NBR	0	0	116		199	
SBL	1	1600	45	.03*	103	.06
SBT	2	3200	320	.12	608	.26*
SBR	0	0	67		209	
EBL	2	3200	239	.07	106	.03
EBT	2	3200	762	.29*	1275	.43*
EBR	0	0	179		96	
WBL	1	1600	182	.11*	116	.07*
WBT	3	4800	1336	.29	874	.19
WBR	0	0	61		29	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.70		.94



# 19. Bloomfield & Florence

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	123	.08	205	.13*
NBT	2	3200	631	.23*	469	.21
NBR	0	0	108		196	
SBL	1	1600	45	.03*	109	.07
SBT	2	3200	343	.13	656	.27*
SBR	0	0	65		203	
EBL	2	3200	224	.07	101	.03
EBT	2	3200	757	.29*	1300	.44*
EBR	0	0	184		103	
WBL	1	1600	180	.11*	113	.07*
WBT	3	4800	1340	.31	867	.19
WBR	0	0	150		34	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.71		.96

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	111	.07	184	.12*
NBT	2	3200	568	.21*	422	.19
NBR	0	0	97		176	
SBL	1	1600	40	.03*	98	.06
SBT	2	3200	309	.11	590	.24*
SBR	0	0	58		183	
EBL	2	3200	202	.06	91	.03
EBT	2	3200	681	.26*	1170	.39*
EBR	0	0	166		93	
WBL	1	1600	162	.10*	102	.06*
WBT	3	4800	1206	.28	780	.17
WBR	0	0	135		31	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.65		.86

# 19. Bloomfield & Florence

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	103	.06	184	.12*
NBT	2	3200	524	.20*	409	.18
NBR	0	0	104		179	
SBL	1	1600	40	.03*	93	.06
SBT	2	3200	288	.11	547	.23*
SBR	0	0	60		188	
EBL	2	3200	215	.07	95	.03
EBT	2	3200	686	.26*	1147	.39*
EBR	0	0	161		86	
WBL	1	1600	164	.10*	104	.07*
WBT	3	4800	1202	.26	787	.17
WBR	0	0	55		26	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.64		.86

## 20. Bloomfield & Lakeland

### Existing (1992) Count

	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	28	.02	18	.01*
NBT	2	3200	555	.19*	428	.14
NBR	0	0	40		30	
SBL	1	1600	64	.04*	64	.04
SBT	2	3200	320	.12	488	.17*
SBR	0	0	51		47	
EBL	1	1600	29	.02*	31	.02*
EBT	1	1600	80	.06	163	.13
EBR	0	0	17		42	
WBL	1	1600	26	.02	39	.02
WBT	1	1600	175	.14*	145	.13*
WBR	0	0	43		62	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.44

.38

### Future Buildout

	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	36	.02	20	.01*
NBT	2	3200	854	.29*	490	.16
NBR	0	0	71		35	
SBL	1	1600	85	.05*	73	.05
SBT	2	3200	380	.14	724	.25*
SBR	0	0	82		72	
EBL	1	1600	35	.02*	63	.04*
EBT	1	1600	86	.07	172	.14
EBR	0	0	29		59	
WBL	1	1600	26	.02	42	.03
WBT	1	1600	178	.14*	146	.14*
WBR	0	0	43		78	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.55

.49

## 20. Bloomfield & Lakeland

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	32	.02	18	.01*
NBT	2	3200	769	.26*	441	.15
NBR	0	0	64		31	
SBL	1	1600	76	.05*	66	.04
SBT	2	3200	342	.13	652	.22*
SBR	0	0	74		65	
EBL	1	1600	31	.02*	57	.04*
EBT	1	1600	77	.06	155	.13
EBR	0	0	26		53	
WBL	1	1600	23	.01	38	.02
WBT	1	1600	160	.12*	131	.13*
WBR	0	0	39		70	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.50		.45

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	36	.02	20	.01*
NBT	2	3200	806	.27*	480	.16
NBR	0	0	72		35	
SBL	1	1600	85	.05*	71	.04
SBT	2	3200	353	.14	676	.23*
SBR	0	0	83		72	
EBL	1	1600	36	.02*	63	.04*
EBT	1	1600	87	.07	172	.14
EBR	0	0	31		59	
WBL	1	1600	26	.02	42	.03
WBT	1	1600	178	.14*	146	.14*
WBR	0	0	43		78	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.53		.47



## 20. Bloomfield & Lakeland

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	32	.02	18	.01*
NBT	2	3200	725	.25*	432	.14
NBR	0	0	65		31	
SBL	1	1600	76	.05*	64	.04
SBT	2	3200	318	.12	608	.21*
SBR	0	0	75		65	
EBL	1	1600	32	.02*	57	.04*
EBT	1	1600	78	.07	155	.13
EBR	0	0	28		53	
WBL	1	1600	23	.01	38	.02
WBT	1	1600	160	.12*	131	.13*
WBR	0	0	39		70	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.49		.44

## 21. Bloomfield & Imperial Hwy

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	139	.09	100	.06*
NBT	2	3200	724	.23*	313	.10
NBR	1	1600	227	.14	237	.15
SBL	1	1600	36	.02*	178	.11
SBT	2	3200	241	.08	550	.17*
SBR	1	1600	110	.07	195	.12
EBL	1	1600	112	.07*	90	.06
EBT	3	4800	770	.16	1568	.33*
EBR	1	1600	84	.05	128	.08
WBL	1	1600	146	.09	184	.12*
WBT	3	4800	1886	.42*	1155	.25
WBR	0	0	106		53	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.73

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	139	.09	100	.06*
NBT	2	3200	1017	.32*	362	.11
NBR	1	1600	273	.17	247	.15
SBL	1	1600	71	.04*	203	.13
SBT	2	3200	267	.08	739	.23*
SBR	1	1600	115	.07	236	.15
EBL	1	1600	116	.07*	90	.06*
EBT	3	4800	2054	.43	1780	.37
EBR	1	1600	84	.05	128	.08
WBL	1	1600	148	.09	208	.13
WBT	3	4800	2057	.46*	2342	.50*
WBR	0	0	159		77	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.94		.90

## 21. Bloomfield & Imperial Hwy

### Future Buildout w/Mit. & TDM

	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	125	.08	90	.06*
NBT	2	3200	915	.29*	326	.10
NBR	1	1600	246	.15	222	.14
SBL	1	1600	64	.04*	183	.11
SBT	2	3200	240	.08	665	.21*
SBR	1	1600	103	.06	212	.13
EBL	1	1600	104	.07*	81	.05*
EBT	3	4800	1849	.39	1602	.33
EBR	1	1600	76	.05	115	.07
WBL	1	1600	133	.08	187	.12
WBT	3	4800	1851	.42*	2108	.45*
WBR	0	0	143		69	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.87

.82

### Future Golf Course Alternative

	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	139	.09	100	.06*
NBT	2	3200	996	.31*	361	.11
NBR	1	1600	273	.17	247	.15
SBL	1	1600	52	.03*	188	.12
SBT	2	3200	261	.08	704	.22*
SBR	1	1600	115	.07	238	.15
EBL	1	1600	116	.07*	90	.06*
EBT	3	4800	2057	.43	1785	.37
EBR	1	1600	84	.05	128	.08
WBL	1	1600	148	.09	208	.13
WBT	3	4800	2066	.46*	2348	.50*
WBR	0	0	133		69	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.92

.89

21. Bloomfield & Imperial Hwy

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	125	.08	90	.06*
NBT	2	3200	896	.28*	325	.10
NBR	1	1600	246	.15	222	.14
SBL	1	1600	47	.03*	169	.11
SBT	2	3200	235	.07	634	.20*
SBR	1	1600	103	.06	214	.13
EBL	1	1600	104	.07*	81	.05*
EBT	3	4800	1851	.39	1606	.33
EBR	1	1600	76	.05	115	.07
WBL	1	1600	133	.08	187	.12
WBT	3	4800	1859	.41*	2113	.45*
WBR	0	0	120		62	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		.81



## 22. Greenleaf & Los Nietos

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	117	.07*	101	.06*
NBT	1	1600	250	.19	278	.19
NBR	0	0	55		26	
SBL	1	1600	67	.04	61	.04
SBT	1	1600	241	.26*	247	.19*
SBR	0	0	171		64	
EBL	1	1600	78	.05*	106	.07
EBT	1	1600	250	.22	476	.36*
EBR	0	0	95		105	
WBL	1	1600	50	.03	53	.03*
WBT	1	1600	532	.38*	349	.28
WBR	0	0	71		99	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.81		.69

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	120	.08*	118	.07*
NBT	1	1600	254	.20	285	.20
NBR	0	0	60		29	
SBL	1	1600	67	.04	63	.04
SBT	1	1600	247	.26*	249	.20*
SBR	0	0	173		67	
EBL	1	1600	83	.05*	106	.07
EBT	1	1600	259	.23	489	.38*
EBR	0	0	108		116	
WBL	1	1600	50	.03	53	.03*
WBT	1	1600	539	.39*	367	.30
WBR	0	0	79		105	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.83		.73

## 22. Greenleaf & Los Nietos

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	108	.07*	106	.07*
NBT	1	1600	229	.18	256	.18
NBR	0	0	54		26	
SBL	1	1600	60	.04	57	.04
SBT	1	1600	222	.24*	224	.18*
SBR	0	0	156		60	
EBL	1	1600	75	.05*	95	.06
EBT	1	1600	233	.21	440	.34*
EBR	0	0	97		104	
WBL	1	1600	45	.03	48	.03*
WBT	1	1600	485	.35*	330	.26
WBR	0	0	71		94	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.67

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	120	.08*	118	.07*
NBT	1	1600	254	.20	286	.20
NBR	0	0	60		29	
SBL	1	1600	67	.04	63	.04
SBT	1	1600	247	.26*	249	.20*
SBR	0	0	173		67	
EBL	1	1600	83	.05*	106	.07
EBT	1	1600	260	.23	489	.38*
EBR	0	0	109		115	
WBL	1	1600	50	.03	53	.03*
WBT	1	1600	539	.39*	368	.30
WBR	0	0	80		105	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.83		.73

## 22. Greenleaf & Los Nietos

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	108	.07*	106	.07*
NBT	1	1600	229	.18	257	.18
NBR	0	0	54		26	
SBL	1	1600	60	.04	57	.04
SBT	1	1600	222	.24*	224	.18*
SBR	0	0	156		60	
EBL	1	1600	75	.05*	95	.06
EBT	1	1600	234	.21	440	.34*
EBR	0	0	98		103	
WBL	1	1600	45	.03	48	.03*
WBT	1	1600	485	.35*	331	.27
WBR	0	0	72		94	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.67

### 23. Greenleaf & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	128	.08*	87	.05*
NBT	2	3200	250	.09	258	.10
NBR	0	0	26		47	
SBL	1	1600	27	.02	46	.03
SBT	2	3200	217	.09*	332	.13*
SBR	0	0	56		79	
EBL	1	1600	53	.03*	125	.08
EBT	3	4800	442	.11	1414	.32*
EBR	0	0	83		110	
WBL	1	1600	34	.02	42	.03*
WBT	3	4800	1543	.33*	628	.14
WBR	0	0	51		29	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.58		.58

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	128	.08*	87	.05*
NBT	2	3200	252	.09	259	.10
NBR	0	0	26		47	
SBL	1	1600	28	.02	47	.03
SBT	2	3200	217	.09*	332	.13*
SBR	0	0	65		81	
EBL	1	1600	59	.04*	132	.08
EBT	3	4800	527	.13	1786	.40*
EBR	0	0	92		128	
WBL	1	1600	34	.02	42	.03*
WBT	3	4800	1831	.40*	723	.16
WBR	0	0	78		39	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.66		.66



## 23. Greenleaf & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	115	.07*	78	.05*
NBT	2	3200	227	.08	233	.09
NBR	0	0	23		42	
SBL	1	1600	25	.02	42	.03
SBT	2	3200	195	.08*	299	.12*
SBR	0	0	58		73	
EBL	1	1600	53	.03*	119	.07
EBT	3	4800	474	.12	1607	.36*
EBR	0	0	83		115	
WBL	1	1600	31	.02	38	.02*
WBT	3	4800	1648	.36*	651	.14
WBR	0	0	70		35	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.59		.60

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	128	.08*	87	.05*
NBT	2	3200	253	.09	259	.10
NBR	0	0	26		47	
SBL	1	1600	28	.02	47	.03
SBT	2	3200	217	.09*	332	.13*
SBR	0	0	66		81	
EBL	1	1600	59	.04*	132	.08
EBT	3	4800	491	.12	1583	.35*
EBR	0	0	84		110	
WBL	1	1600	34	.02	42	.03*
WBT	3	4800	1641	.36*	690	.15
WBR	0	0	81		40	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.62		.61

### 23. Greenleaf & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	115	.07*	78	.05*
NBT	2	3200	228	.08	233	.09
NBR	0	0	23		42	
SBL	1	1600	25	.02	42	.03
SBT	2	3200	195	.08*	299	.12*
SBR	0	0	59		73	
EBL	1	1600	53	.03*	119	.07
EBT	3	4800	442	.11	1425	.32*
EBR	0	0	76		99	
WBL	1	1600	31	.02	38	.02*
WBT	3	4800	1477	.32*	621	.14
WBR	0	0	73		36	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.55		.56

## 24. Shoemaker & Florence

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	197	.12*	116	.07*
NBT	2	3200	363	.12	329	.13
NBR	0	0	35		99	
SBL	1	1600	14	.01	41	.03
SBT	2	3200	253	.09*	428	.16*
SBR	0	0	49		98	
EBL	1	1600	109	.07*	49	.03
EBT	2	3200	379	.14	1154	.41*
EBR	0	0	58		159	
WBL	1	1600	65	.04	44	.03*
WBT	2	3200	1082	.34*	591	.19
WBR	0	0	21		14	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.67		.72

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	212	.13*	131	.08*
NBT	2	3200	367	.13	331	.13
NBR	0	0	35		99	
SBL	1	1600	14	.01	41	.03
SBT	2	3200	261	.10*	446	.17*
SBR	0	0	49		98	
EBL	1	1600	109	.07*	49	.03
EBT	2	3200	434	.16	1368	.48*
EBR	0	0	79		178	
WBL	1	1600	67	.04	44	.03*
WBT	2	3200	1288	.42*	658	.21
WBR	0	0	52		18	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.77		.81

## 24. Shoemaker & Florence

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	191	.12*	118	.07*
NBT	2	3200	330	.11	298	.12
NBR	0	0	31		89	
SBL	1	1600	13	.01	37	.02
SBT	2	3200	235	.09*	401	.15*
SBR	0	0	44		88	
EBL	1	1600	98	.06*	44	.03
EBT	2	3200	391	.14	1231	.43*
EBR	0	0	71		160	
WBL	1	1600	60	.04	40	.03*
WBT	2	3200	1159	.38*	592	.19
WBR	0	0	47		16	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.70		.73

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	211	.13*	132	.08*
NBT	2	3200	370	.13	332	.13
NBR	0	0	35		99	
SBL	1	1600	14	.01	41	.03
SBT	2	3200	253	.09*	428	.16*
SBR	0	0	49		98	
EBL	1	1600	109	.07*	49	.03
EBT	2	3200	432	.16	1343	.47*
EBR	0	0	77		173	
WBL	1	1600	67	.04	44	.03*
WBT	2	3200	1200	.39*	655	.21
WBR	0	0	57		19	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.73		.79



# 24. Shoemaker & Florence

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	190	.12*	119	.07*
NBT	2	3200	333	.11	299	.12
NBR	0	0	31		89	
SBL	1	1600	13	.01	37	.02
SBT	2	3200	228	.09*	385	.15*
SBR	0	0	44		88	
EBL	1	1600	98	.06*	44	.03
EBT	2	3200	389	.14	1209	.43*
EBR	0	0	69		156	
WBL	1	1600	60	.04	40	.03*
WBT	2	3200	1080	.35*	589	.19
WBR	0	0	51		17	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.67		.73

## 25. Shoemaker & Lakeland

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	161	.10*	44	.03*
NBT	2	3200	542	.18	368	.12
NBR	0	0	24		24	
SBL	1	1600	36	.02	53	.03
SBT	2	3200	275	.10*	575	.19*
SBR	0	0	45		39	
EBL	1	1600	30	.02*	40	.03
EBT	1	1600	57	.07	129	.14*
EBR	0	0	59		101	
WBL	1	1600	27	.02	15	.01*
WBT	1	1600	117	.11*	69	.07
WBR	0	0	67		43	
Clearance Interval				.05*		.05*

**TOTAL CAPACITY UTILIZATION**

**.38**

**.42**

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	169	.11*	46	.03*
NBT	2	3200	560	.18	377	.13
NBR	0	0	24		24	
SBL	1	1600	38	.02	53	.03
SBT	2	3200	291	.11*	606	.20*
SBR	0	0	47		39	
EBL	1	1600	30	.02*	40	.03
EBT	1	1600	59	.08	140	.16*
EBR	0	0	63		115	
WBL	1	1600	28	.02	15	.01*
WBT	1	1600	129	.12*	74	.08
WBR	0	0	68		47	
Clearance Interval				.05*		.05*

**TOTAL CAPACITY UTILIZATION**

**.41**

**.45**

## 25. Shoemaker & Lakeland

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	152	.10*	41	.03*
NBT	2	3200	504	.16	339	.11
NBR	0	0	22		22	
SBL	1	1600	34	.02	48	.03
SBT	2	3200	262	.10*	545	.18*
SBR	0	0	42		35	
EBL	1	1600	27	.02*	36	.02
EBT	1	1600	53	.07	126	.14*
EBR	0	0	57		103	
WBL	1	1600	25	.02	13	.01*
WBT	1	1600	116	.11*	67	.07
WBR	0	0	61		42	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.38		.41

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	169	.11*	46	.03*
NBT	2	3200	562	.18	379	.13
NBR	0	0	24		24	
SBL	1	1600	38	.02	53	.03
SBT	2	3200	281	.10*	584	.19*
SBR	0	0	47		39	
EBL	1	1600	30	.02*	40	.03
EBT	1	1600	59	.08	140	.16*
EBR	0	0	65		115	
WBL	1	1600	28	.02	15	.01*
WBT	1	1600	129	.12*	74	.08
WBR	0	0	68		47	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.40		.44

# 25. Shoemaker & Lakeland

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	152	.10*	41	.03*
NBT	2	3200	506	.17	341	.11
NBR	0	0	22		22	
SBL	1	1600	34	.02	48	.03
SBT	2	3200	253	.09*	526	.18*
SBR	0	0	42		35	
EBL	1	1600	27	.02*	36	.02
EBT	1	1600	53	.07	126	.14*
EBR	0	0	58		103	
WBL	1	1600	25	.02	13	.01*
WBT	1	1600	116	.11*	67	.07
WBR	0	0	61		42	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.37		.41



## 26. Shoemaker & Imperial Hwy

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	2		2	
NBT	1	1600	5	.00	2	.00
NBR	0	0	0		2	
SBL	0	0	112		256	
SBT	1	1600	1	.07*	0	.16*
SBR	1	1600	112	.07	257	.16
EBL	1	1600	162	.10*	131	.08*
EBT	3	4800	701	.15	1854	.39
EBR	0	0	7		2	
WBL	1	1600	0	.00	10	.01
WBT	2	3200	1917	.65*	940	.32*
WBR	0	0	151		78	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.87		.61

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	2		2	
NBT	1	1600	5	.00	2	.00
NBR	0	0	0		2	
SBL	0	0	113		257	
SBT	1	1600	1	.07*	0	.16*
SBR	1	1600	112	.07	259	.16
EBL	1	1600	162	.10*	131	.08*
EBT	3	4800	2023	.42	2093	.44
EBR	0	0	7		2	
WBL	1	1600	0	.00	10	.01
WBT	2	3200	2156	.72*	2158	.70*
WBR	0	0	156		81	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.94		.99

## 26. Shoemaker & Imperial Hwy

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	2		2	
NBT	1	1600	5	.00	2	.00
NBR	0	0	0		2	
SBL	0	0	113		257	
SBT	1	1600	1	.07*	0	.16*
SBR	1	1600	112	.07	259	.16
EBL	1	1600	162	.10*	131	.08*
EBT	3	4800	2023	.42	2093	.44
EBR	0	0	7		2	
WBL	1	1600	0	.00	10	.01
WBT	3	4800	2156	.48*	2158	.47*
WBR	0	0	156		81	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.70		.76

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	2		2	
NBT	1	1600	4	.00	2	.00
NBR	0	0	0		2	
SBL	0	0	102		231	
SBT	1	1600	1	.06*	0	.14*
SBR	1	1600	101	.06	233	.15
EBL	1	1600	146	.09*	118	.07*
EBT	3	4800	1821	.38	1884	.39
EBR	0	0	6		2	
WBL	1	1600	0	.00	9	.01
WBT	3	4800	1940	.43*	1942	.42*
WBR	0	0	140		73	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.63		.68

## 26. Shoemaker & Imperial Hwy

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	2		2	
NBT	1	1600	5	.00	2	.00
NBR	0	0	0		2	
SBL	0	0	114		257	
SBT	1	1600	1	.07*	0	.16*
SBR	1	1600	112	.07	259	.16
EBL	1	1600	162	.10*	131	.08*
EBT	3	4800	2007	.42	2084	.43
EBR	0	0	7		2	
WBL	1	1600	0	.00	10	.01
WBT	2	3200	2140	.72*	2157	.70*
WBR	0	0	157		82	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.94		.99

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	2		2	
NBT	1	1600	5	.00	2	.00
NBR	0	0	0		2	
SBL	0	0	114		257	
SBT	1	1600	1	.07*	0	.16*
SBR	1	1600	112	.07	259	.16
EBL	1	1600	162	.10*	131	.08*
EBT	3	4800	2007	.42	2084	.43
EBR	0	0	7		2	
WBL	1	1600	0	.00	10	.01
WBT	3	4800	2140	.48*	2157	.47*
WBR	0	0	157		82	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.70		.76

26. Shoemaker & Imperial Hwy

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	2		2	
NBT	1	1600	4	.00	2	.00
NBR	0	0	0		2	
SBL	0	0	103		231	
SBT	1	1600	1	.07*	0	.14*
SBR	1	1600	101	.06	233	.15
EBL	1	1600	146	.09*	118	.07*
EBT	3	4800	1806	.38	1876	.39
EBR	0	0	6		2	
WBL	1	1600	0	.00	9	.01
WBT	3	4800	1926	.43*	1941	.42*
WBR	0	0	141		74	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.64		.68



## 27. Painter & Los Nietos

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	4		15	
NBT	1	1600	11	.01	32	.03*
NBR	0	0	0		6	
SBL	0	0	122		110	{.07}*
SBT	1	1600	17	.09*	19	.08
SBR	1	1600	201	.13	64	.04
EBL	1	1600	59	.04*	91	.06*
EBT	2	3200	215	.07	394	.13
EBR	0	0	2		7	
WBL	1	1600	5	.00	5	.00
WBT	2	3200	487	.20*	265	.13*
WBR	0	0	147		153	
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.39		.34

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	25	{.02}*	34	
NBT	1	1600	13	.02	36	.05*
NBR	0	0	0		6	
SBL	0	0	122		110	{.07}*
SBT	1	1600	20	.09*	21	.08
SBR	1	1600	201	.13	64	.04
EBL	1	1600	59	.04*	91	.06*
EBT	2	3200	215	.07	394	.13
EBR	0	0	8		30	
WBL	1	1600	5	.00	5	.00
WBT	2	3200	487	.20*	265	.13*
WBR	0	0	147		153	
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.41		.36

## 27. Painter & Los Nietos

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	22		31	
NBT	1	1600	12	.02*	32	.04*
NBR	0	0	0		5	
SBL	0	0	110	{.07}*	99	{.06}*
SBT	1	1600	18	.08	19	.07
SBR	1	1600	181	.11	58	.04
EBL	1	1600	53	.03*	82	.05*
EBT	2	3200	193	.06	355	.12
EBR	0	0	7		27	
WBL	1	1600	4	.00	4	.00
WBT	2	3200	438	.18*	238	.12*
WBR	0	0	132		138	
Right Turn Adjustment Clearance Interval			SBR	.01* .05*		.05*
TOTAL CAPACITY UTILIZATION				.36		.32

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	27	{.02}*	36	
NBT	1	1600	13	.03	36	.05*
NBR	0	0	0		6	
SBL	0	0	122		110	{.07}*
SBT	1	1600	20	.09*	21	.08
SBR	1	1600	201	.13	64	.04
EBL	1	1600	59	.04*	91	.06*
EBT	2	3200	215	.07	394	.13
EBR	0	0	9		30	
WBL	1	1600	5	.00	5	.00
WBT	2	3200	487	.20*	265	.13*
WBR	0	0	147		153	
Right Turn Adjustment Clearance Interval			SBR	.01* .05*		.05*
TOTAL CAPACITY UTILIZATION				.41		.36

# 27. Painter & Los Nietos

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	24		32	
NBT	1	1600	12	.02*	32	.04*
NBR	0	0	0		5	
SBL	0	0	110	{.07}*	99	{.06}*
SBT	1	1600	18	.08	19	.07
SBR	1	1600	181	.11	58	.04
EBL	1	1600	53	.03*	82	.05*
EBT	2	3200	193	.06	355	.12
EBR	0	0	8		27	
WBL	1	1600	4	.00	4	.00
WBT	2	3200	438	.18*	238	.12*
WBR	0	0	132		138	
Right Turn Adjustment			SBR	.01*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.36		.32

## 28. Painter & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	36	.02	66	.04
NBT	1	1600	158	.11*	154	.11*
NBR	0	0	12		17	
SBL	1.5		227	{.11}*	436	{.18}*
SBT	0.5	3200	132	.11	152	.18
SBR	1	1600	59	.04	50	.03
EBL	1	1600	76	.05*	82	.05
EBT	2	3200	356	.11	1354	.42*
EBR	1	1600	46	.03	99	.06
WBL	1	1600	34	.02	30	.02*
WBT	3	4800	1588	.42*	469	.14
WBR	0	0	440		208	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.74

.78

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	36	.02	66	.04
NBT	1	1600	158	.11*	154	.11*
NBR	0	0	12		17	
SBL	1.5		230	{.11}*	460	{.19}*
SBT	0.5	3200	135	.11	157	.19
SBR	1	1600	64	.04	60	.04
EBL	1	1600	78	.05*	84	.05
EBT	2	3200	427	.13	1699	.53*
EBR	1	1600	48	.03	105	.07
WBL	1	1600	34	.02	30	.02*
WBT	3	4800	1899	.49*	546	.16
WBR	0	0	465		239	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION

.81

.90



## 28. Painter & Telegraph

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	32	.02	59	.04
NBT	1	1600	142	.10*	139	.10*
NBR	0	0	11		15	
SBL	1.5		207	{.10}*	414	{.17}*
SBT	0.5	3200	121	.10	141	.17
SBR	1	1600	58	.04	54	.03
EBL	1	1600	70	.04*	76	.05
EBT	2	3200	384	.12	1529	.48*
EBR	1	1600	43	.03	94	.06
WBL	1	1600	31	.02	27	.02*
WBT	3	4800	1709	.44*	491	.15
WBR	0	0	418		215	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.73		.82

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	36	.02	66	.04
NBT	1	1600	158	.11*	154	.11*
NBR	0	0	12		17	
SBL	1.5		231	{.11}*	461	{.19}*
SBT	0.5	3200	135	.11	157	.19
SBR	1	1600	64	.04	60	.04
EBL	1	1600	78	.05*	84	.05
EBT	2	3200	391	.12	1499	.47*
EBR	1	1600	48	.03	103	.06
WBL	1	1600	34	.02	30	.02*
WBT	3	4800	1712	.45*	514	.16
WBR	0	0	468		241	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.77		.84

## 28. Painter & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	32	.02	59	.04
NBT	1	1600	142	.10*	139	.10*
NBR	0	0	11		15	
SBL	1.5		208	{.10}*	415	{.17}*
SBT	0.5	3200	121	.10	141	.17
SBR	1	1600	58	.04	54	.03
EBL	1	1600	70	.04*	76	.05
EBT	2	3200	352	.11	1349	.42*
EBR	1	1600	43	.03	93	.06
WBL	1	1600	31	.02	27	.02*
WBT	3	4800	1541	.41*	463	.14
WBR	0	0	421		217	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.70		.76

## 29. Painter & Florence

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	8	.01*	13	.01*
NBT	1	1600	93	.06	60	.06
NBR	0	0	9		40	
SBL	1	1600	34	.02	98	.06
SBT	1	1600	88	.10*	128	.12*
SBR	0	0	65		69	
EBL	1	1600	107	.07*	87	.05
EBT	2	3200	388	.13	1314	.42*
EBR	0	0	26		17	
WBL	1	1600	40	.03	13	.01*
WBT	2	3200	1256	.42*	459	.15
WBR	0	0	78		34	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.65		.61

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	8	.01*	13	.01*
NBT	1	1600	93	.06	60	.06
NBR	0	0	9		40	
SBL	1	1600	34	.02	98	.06
SBT	1	1600	89	.10*	128	.12*
SBR	0	0	65		69	
EBL	1	1600	107	.07*	87	.05
EBT	2	3200	438	.15	1530	.48*
EBR	0	0	26		17	
WBL	1	1600	40	.03	13	.01*
WBT	2	3200	1500	.49*	530	.18
WBR	0	0	80		34	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.72		.67

## 29. Painter & Florence

### Future Buildout w/Mit. & TDM

	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C
NBL	1	1600	7 .00	12 .01*
NBT	1	1600	84 .06	54 .06
NBR	0	0	8	36
SBL	1	1600	31 .02	88 .06
SBT	1	1600	80 .09*	115 .11*
SBR	0	0	58	62
EBL	1	1600	96 .06*	78 .05
EBT	2	3200	394 .13	1377 .44*
EBR	0	0	23	15
WBL	1	1600	36 .02	12 .01*
WBT	2	3200	1350 .44*	477 .16
WBR	0	0	72	31
Clearance Interval			.05*	.05*
TOTAL CAPACITY UTILIZATION			.64	.62

### Future Golf Course Alternative

	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C
NBL	1	1600	8 .01*	13 .01*
NBT	1	1600	93 .06	60 .06
NBR	0	0	9	40
SBL	1	1600	34 .02	98 .06
SBT	1	1600	89 .10*	128 .12*
SBR	0	0	65	69
EBL	1	1600	107 .07*	87 .05
EBT	2	3200	436 .14	1505 .48*
EBR	0	0	26	17
WBL	1	1600	40 .03	13 .01*
WBT	2	3200	1417 .47*	528 .18
WBR	0	0	80	34
Clearance Interval			.05*	.05*
TOTAL CAPACITY UTILIZATION			.70	.67



## 29. Painter & Florence

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	7	.00	12	.01*
NBT	1	1600	84	.06	54	.06
NBR	0	0	8		36	
SBL	1	1600	31	.02	88	.06
SBT	1	1600	80	.09*	115	.11*
SBR	0	0	58		62	
EBL	1	1600	96	.06*	78	.05
EBT	2	3200	392	.13	1354	.43*
EBR	0	0	23		15	
WBL	1	1600	36	.02	12	.01*
WBT	2	3200	1275	.42*	475	.16
WBR	0	0	72		31	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.62		.61

### 30. Carmenita & Telegraph

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	210	.13*	198	.12
NBT	2	3200	440	.15	641	.25*
NBR	0	0	53		159	
SBL	1	1600	113	.07	159	.10*
SBT	2	3200	467	.16*	418	.15
SBR	0	0	55		73	
EBL	1	1600	52	.03*	135	.08
EBT	2	3200	387	.12	1286	.40*
EBR	1	1600	79	.05	151	.09
WBL	1	1600	67	.04	186	.12*
WBT	3	4800	1704	.39*	631	.17
WBR	0	0	147		169	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.92

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	306	.19*	236	.15
NBT	2	3200	481	.17	827	.31*
NBR	0	0	53		167	
SBL	1	1600	113	.07	164	.10*
SBT	2	3200	647	.22*	458	.17
SBR	0	0	59		85	
EBL	1	1600	52	.03*	137	.09
EBT	2	3200	428	.13	1557	.49*
EBR	1	1600	110	.07	240	.15
WBL	1	1600	67	.04	186	.12*
WBT	3	4800	1940	.44*	675	.18
WBR	0	0	153		171	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.93		1.07

### 30. Carmenita & Telegraph

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	306	.10*	236	.07
NBT	2	3200	481	.17	827	.31*
NBR	0	0	53		167	
SBL	1	1600	113	.07	164	.10*
SBT	2	3200	647	.22*	458	.17
SBR	0	0	59		85	
EBL	1	1600	52	.03*	137	.09
EBT	3	4800	428	.09	1557	.32*
EBR	1	1600	110	.07	240	.15
WBL	1	1600	67	.04	186	.12*
WBT	3	4800	1940	.44*	675	.18
WBR	0	0	153		171	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		.90

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	275	.09*	212	.07
NBT	2	3200	433	.15	744	.28*
NBR	0	0	48		150	
SBL	1	1600	102	.06	148	.09*
SBT	2	3200	582	.20*	412	.15
SBR	0	0	53		76	
EBL	1	1600	47	.03*	123	.08
EBT	3	4800	385	.08	1401	.29*
EBR	1	1600	99	.06	216	.14
WBL	1	1600	60	.04	167	.10*
WBT	3	4800	1746	.39*	607	.16
WBR	0	0	138		154	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.81

### 30. Carmenita & Telegraph

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	268	.17*	229	.14
NBT	2	3200	487	.17	830	.31*
NBR	0	0	53		167	
SBL	1	1600	113	.07	164	.10*
SBT	2	3200	648	.22*	458	.17
SBR	0	0	59		85	
EBL	1	1600	52	.03*	137	.09
EBT	2	3200	404	.13	1397	.44*
EBR	1	1600	99	.06	203	.13
WBL	1	1600	67	.04	186	.12*
WBT	3	4800	1795	.41*	653	.17
WBR	0	0	153		171	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.88		1.02

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	268	.08*	229	.07
NBT	2	3200	487	.17	830	.31*
NBR	0	0	53		167	
SBL	1	1600	113	.07	164	.10*
SBT	2	3200	648	.22*	458	.17
SBR	0	0	59		85	
EBL	1	1600	52	.03*	137	.09
EBT	3	4800	404	.08	1397	.29*
EBR	1	1600	99	.06	203	.13
WBL	1	1600	67	.04	186	.12*
WBT	3	4800	1795	.41*	653	.17
WBR	0	0	153		171	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.87



### 30. Carmenita & Telegraph

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	241	.08*	206	.06
NBT	2	3200	438	.15	747	.28*
NBR	0	0	48		150	
SBL	1	1600	102	.06	148	.09*
SBT	2	3200	583	.20*	412	.15
SBR	0	0	53		76	
EBL	1	1600	47	.03*	123	.08
EBT	3	4800	364	.08	1257	.26*
EBR	1	1600	89	.06	183	.11
WBL	1	1600	60	.04	167	.10*
WBT	3	4800	1615	.37*	588	.15
WBR	0	0	138		154	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.73		.78

### 31. Carmenita & Florence

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	143	.09*	82	.05
NBT	2	3200	659	.25	914	.33*
NBR	0	0	141		140	
SBL	1	1600	9	.01	90	.06*
SBT	2	3200	465	.17*	728	.25
SBR	0	0	83		59	
EBL	1	1600	57	.04*	145	.09
EBT	2	3200	280	.10	1210	.40*
EBR	0	0	36		71	
WBL	1	1600	154	.10	72	.05*
WBT	2	3200	1133	.36*	328	.11
WBR	0	0	17		20	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.71		.89

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1	1600	204	.13*	108	.07
NBT	2	3200	802	.30	1155	.42*
NBR	0	0	145		179	
SBL	1	1600	9	.01	90	.06*
SBT	2	3200	677	.24*	867	.29
SBR	0	0	83		59	
EBL	1	1600	57	.04*	145	.09
EBT	2	3200	304	.11	1359	.47*
EBR	0	0	55		133	
WBL	1	1600	205	.13	83	.05*
WBT	2	3200	1321	.42*	359	.12
WBR	0	0	20		28	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.88		1.05

### 31. Carmenita & Florence

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	204	.13*	108	.07
NBT	2	3200	802	.30	1155	.42*
NBR	0	0	145		179	
SBL	1	1600	9	.01	90	.06*
SBT	2	3200	677	.24*	867	.29
SBR	0	0	83		59	
EBL	1	1600	57	.04*	145	.09
EBT	3	4800	304	.07	1359	.31*
EBR	0	0	55		133	
WBL	1	1600	205	.13	83	.05*
WBT	2	3200	1321	.42*	359	.12
WBR	0	0	20		28	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.88		.89

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	184	.12*	97	.06
NBT	2	3200	722	.27	1039	.38*
NBR	0	0	130		161	
SBL	1	1600	8	.01	81	.05*
SBT	2	3200	609	.21*	780	.26
SBR	0	0	75		53	
EBL	1	1600	51	.03*	130	.08
EBT	3	4800	274	.07	1223	.28*
EBR	0	0	49		120	
WBL	1	1600	184	.12	75	.05*
WBT	2	3200	1189	.38*	323	.11
WBR	0	0	18		25	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.81

### 31. Carmenita & Florence

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	173	.11*	102	.06
NBT	2	3200	770	.29	1152	.42*
NBR	0	0	146		179	
SBL	1	1600	9	.01	90	.06*
SBT	2	3200	668	.23*	830	.28
SBR	0	0	83		59	
EBL	1	1600	57	.04*	145	.09
EBT	2	3200	302	.11	1339	.46*
EBR	0	0	55		127	
WBL	1	1600	205	.13	83	.05*
WBT	2	3200	1269	.40*	363	.12
WBR	0	0	20		28	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.83		1.04

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	173	.11*	102	.06
NBT	2	3200	770	.29	1152	.42*
NBR	0	0	146		179	
SBL	1	1600	9	.01	90	.06*
SBT	2	3200	668	.23*	830	.28
SBR	0	0	83		59	
EBL	1	1600	57	.04*	145	.09
EBT	3	4800	302	.07	1339	.31*
EBR	0	0	55		127	
WBL	1	1600	205	.13	83	.05*
WBT	2	3200	1269	.40*	363	.12
WBR	0	0	20		28	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.83		.89



### 31. Carmenita & Florence

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	156	.10*	92	.06
NBT	2	3200	693	.26	1037	.37*
NBR	0	0	131		161	
SBL	1	1600	8	.01	81	.05*
SBT	2	3200	601	.21*	747	.25
SBR	0	0	75		53	
EBL	1	1600	51	.03*	130	.08
EBT	3	4800	272	.07	1205	.27*
EBR	0	0	49		114	
WBL	1	1600	184	.12	75	.05*
WBT	2	3200	1142	.36*	327	.11
WBR	0	0	18		25	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.75		.79

## 32. Carmenita & Imperial Hwy

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	143	.09*	126	.08
NBT	2	3200	581	.20	937	.33*
NBR	0	0	52		133	
SBL	1	1600	72	.05	99	.06*
SBT	2	3200	825	.27*	662	.22
SBR	0	0	33		40	
EBL	1	1600	31	.02*	80	.05
EBT	3	4800	574	.14	1315	.31*
EBR	0	0	119		173	
WBL	1	1600	139	.09	101	.06*
WBT	3	4800	1282	.28*	677	.16
WBR	0	0	48		91	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .71 .81

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	565	.35*	495	.31*
NBT	2	3200	662	.22	1098	.39
NBR	0	0	52		135	
SBL	1	1600	126	.08	113	.07
SBT	2	3200	966	.34*	759	.26*
SBR	0	0	131		58	
EBL	1	1600	31	.02*	80	.05
EBT	3	4800	795	.25	1627	.47*
EBR	0	0	575	.36	633	
WBL	1	1600	141	.09	102	.06*
WBT	3	4800	1610	.35*	910	.22
WBR	0	0	77		145	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION 1.11 1.15

### 32. Carmenita & Imperial Hwy

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	565	.18*	495	.15
NBT	2	3200	662	.22	1098	.39*
NBR	0	0	52		135	
SBL	1	1600	126	.08	113	.07*
SBT	2	3200	966	.34*	759	.26
SBR	0	0	131		58	
EBL	1	1600	31	.02*	80	.05
EBT	3	4800	795	.17	1627	.34*
EBR	1	1600	575	.36	633	.40
WBL	1	1600	141	.09	102	.06*
WBT	3	4800	1610	.35*	910	.22
WBR	0	0	77		145	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.94		.91

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	508	.16*	445	.14
NBT	2	3200	596	.20	988	.35*
NBR	0	0	47		121	
SBL	1	1600	113	.07	102	.06*
SBT	2	3200	869	.31*	683	.23
SBR	0	0	118		52	
EBL	1	1600	28	.02*	72	.05
EBT	3	4800	715	.15	1464	.31*
EBR	1	1600	517	.32	570	.36
WBL	1	1600	127	.08	92	.06*
WBT	3	4800	1449	.32*	819	.20
WBR	0	0	69		130	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.86		.83

### 32. Carmenita & Imperial Hwy

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	569	.36*	501	.31*
NBT	2	3200	652	.22	1093	.38
NBR	0	0	52		135	
SBL	1	1600	121	.08	107	.07
SBT	2	3200	958	.34*	754	.25*
SBR	0	0	135		59	
EBL	1	1600	31	.02*	80	.05
EBT	3	4800	799	.25	1627	.47*
EBR	0	0	590	.37	640	
WBL	1	1600	141	.09	102	.06*
WBT	3	4800	1613	.35*	916	.22
WBR	0	0	69		143	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			1.12		1.14	

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	569	.18*	501	.16
NBT	2	3200	652	.22	1093	.38*
NBR	0	0	52		135	
SBL	1	1600	121	.08	107	.07*
SBT	2	3200	958	.34*	754	.25
SBR	0	0	135		59	
EBL	1	1600	31	.02*	80	.05
EBT	3	4800	799	.17	1627	.34*
EBR	1	1600	590	.37	640	.40
WBL	1	1600	141	.09	102	.06*
WBT	3	4800	1613	.35*	916	.22
WBR	0	0	69		143	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			.94		.90	



# 32. Carmenita & Imperial Hwy

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	512	.16*	451	.14
NBT	2	3200	587	.20	984	.35*
NBR	0	0	47		121	
SBL	1	1600	109	.07	96	.06*
SBT	2	3200	862	.31*	679	.23
SBR	0	0	121		53	
EBL	1	1600	28	.02*	72	.05
EBT	3	4800	719	.15	1464	.31*
EBR	1	1600	531	.33	576	.36
WBL	1	1600	127	.08	92	.06*
WBT	3	4800	1452	.32*	824	.20
WBR	0	0	62		129	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.86		.83

### 33. Carmenita & Foster

Existing (1992) Count						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	8	.01*	5	.00
NBT	2	3200	876	.27	1020	.32*
NBR	1	1600	40	.03	56	.04
SBL	1	1600	50	.03	59	.04*
SBT	2	3200	1154	.36*	769	.24
SBR	0	0	4		1	
EBL	0	0	2		7	
EBT	1	1600	1	.00*	8	.02
EBR	0	0	3		19	
WBL	1	1600	118	.07*	49	.03
WBT	1	1600	2	.06	9	.06*
WBR	0	0	92		81	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.49		.47

Future Buildout						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	8	.01	5	.00
NBT	2	3200	1484	.46*	1153	.36
NBR	1	1600	149	.09	72	.05
SBL	1	1600	316	.20*	106	.07
SBT	2	3200	1274	.40	1423	.45*
SBR	0	0	15		6	
EBL	0	0	2		12	{.01}*
EBT	1	1600	1	.00	8	.02
EBR	0	0	3		19	
WBL	1	1600	151	.09	275	.17
WBT	1	1600	4	.09*	9	.18*
WBR	0	0	136		279	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.80		.69

### 33. Carmenita & Foster

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	7	.00	4	.00
NBT	2	3200	1336	.42*	1038	.32
NBR	1	1600	134	.08	65	.04
SBL	1	1600	284	.18*	95	.06
SBT	2	3200	1147	.36	1281	.40*
SBR	0	0	13		5	
EBL	0	0	2		11	{.01}*
EBT	1	1600	1	.00*	7	.02
EBR	0	0	3		17	
WBL	1	1600	136	.09*	247	.15
WBT	1	1600	4	.08	8	.16*
WBR	0	0	122		251	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.74		.62

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	8	.01	5	.00
NBT	2	3200	1485	.46*	1156	.36
NBR	1	1600	149	.09	72	.05
SBL	1	1600	314	.20*	103	.06
SBT	2	3200	1284	.41	1431	.45*
SBR	0	0	15		6	
EBL	0	0	2		12	{.01}*
EBT	1	1600	1	.00	8	.02
EBR	0	0	3		19	
WBL	1	1600	151	.09	275	.17
WBT	1	1600	4	.09*	9	.18*
WBR	0	0	133		280	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.80		.69

### 33. Carmenita & Foster

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	7	.00	4	.00
NBT	2	3200	1336	.42*	1040	.33
NBR	1	1600	134	.08	65	.04
SBL	1	1600	283	.18*	93	.06
SBT	2	3200	1156	.37	1288	.40*
SBR	0	0	13		5	
EBL	0	0	2		11	{.01}*
EBT	1	1600	1	.00*	7	.02
EBR	0	0	3		17	
WBL	1	1600	136	.09*	247	.15
WBT	1	1600	4	.08	8	.16*
WBR	0	0	120		252	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.74		.62



### 34. Carmenita & Firestone/I-5 SB Ramps

#### Existing (1992) Count

	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C
NBL	0	0	0	0
NBT	1	1600	800 .50*	589 .37*
NBR	1	1600	50 .03	200 .13
SBL	1	1600	250 .16*	200 .13*
SBT	1	1600	700 .44	741 .46
SBR	0	0	0	0
EBL	0	0	0	0
EBT	0	0	0	0
EBR	0	0	0	0
WBL	1	1600	350 .22*	111 .07*
WBT	0	0	0	0
WBR	1	1600	350 .22	259 .16
Clearance Interval			.05*	.05*
TOTAL CAPACITY UTILIZATION			.93	.62

#### Future Buildout

	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C
NBL	0	0	0	0
NBT	1	1600	935 .58*	638 .40*
NBR	1	1600	53 .03	226 .14
SBL	1	1600	335 .21*	791 .49*
SBT	1	1600	730 .46	879 .55
SBR	0	0	0	0
EBL	0	0	0	0
EBT	0	0	0	0
EBR	0	0	0	0
WBL	1	1600	371 .23*	150 .09*
WBT	0	0	0	0
WBR	1	1600	372 .23	275 .17
Clearance Interval			.05*	.05*
TOTAL CAPACITY UTILIZATION			1.07	1.03

### 34. Carmenita & Firestone/I-5 SB Ramps

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	0		0	
NBT	1	1600	935	.58*	638	.40*
NBR	1	1600	53	.03	226	.14
SBL	2	3200	335	.10*	791	.25*
SBT	1	1600	730	.46	879	.55
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	371	.23*	150	.09*
WBT	0	0	0		0	
WBR	1	1600	372	.23	275	.17
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.96		.79

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	0		0	
NBT	1	1600	841	.53*	574	.36*
NBR	1	1600	48	.03	203	.13
SBL	2	3200	301	.09*	712	.22*
SBT	1	1600	657	.41	791	.49
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	334	.21*	135	.08*
WBT	0	0	0		0	
WBR	1	1600	335	.21	247	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.88		.71

### 34. Carmenita & Firestone/I-5 SB Ramps

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	0		0	
NBT	1	1600	918	.57*	637	.40*
NBR	1	1600	53	.03	226	.14
SBL	1	1600	336	.21*	792	.50*
SBT	1	1600	734	.46	883	.55
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	368	.23*	135	.08*
WBT	0	0	0		0	
WBR	1	1600	373	.23	275	.17
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.06		1.03

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	0		0	
NBT	1	1600	918	.57*	637	.40*
NBR	1	1600	53	.03	226	.14
SBL	2	3200	336	.11*	792	.25*
SBT	1	1600	734	.46	883	.55
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	368	.23*	135	.08*
WBT	0	0	0		0	
WBR	1	1600	373	.23	275	.17
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.96		.78

### 34. Carmenita & Firestone/I-5 SB Ramps

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	826	.52*	573	.36*
NBR	1	1600	48	.03	203	.13
SBL	2	3200	302	.09*	713	.22*
SBT	1	1600	661	.41	795	.50
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	331	.21*	121	.08*
WBT	0	0	0		0	
WBR	1	1600	336	.21	247	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.87		.71



### 35. Carmenita & Alondra

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	163	.10	130	.08*
NBT	2	3200	585	.22*	354	.16
NBR	0	0	130		165	
SBL	1	1600	81	.05*	84	.05
SBT	2	3200	424	.13	542	.17*
SBR	1	1600	279	.17	203	.13
EBL	1	1600	137	.09*	230	.14*
EBT	2	3200	532	.18	656	.24
EBR	0	0	32		124	
WBL	1	1600	152	.10	120	.08
WBT	2	3200	770	.25*	571	.21*
WBR	0	0	27		91	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.66		.65

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	166	.10	132	.08*
NBT	2	3200	655	.25*	367	.17
NBR	0	0	133		167	
SBL	1	1600	85	.05*	121	.08
SBT	2	3200	433	.14	611	.19*
SBR	1	1600	283	.18	236	.15
EBL	1	1600	171	.11*	236	.15*
EBT	2	3200	538	.18	664	.25
EBR	0	0	32		127	
WBL	1	1600	152	.10	122	.08
WBT	2	3200	777	.26*	579	.22*
WBR	0	0	62		114	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.72		.69

### 35. Carmenita & Alondra

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	149	.09	119	.07*
NBT	2	3200	589	.22*	330	.15
NBR	0	0	120		150	
SBL	1	1600	76	.05*	109	.07
SBT	2	3200	390	.12	550	.17*
SBR	1	1600	255	.16	212	.13
EBL	1	1600	154	.10*	212	.13*
EBT	2	3200	484	.16	598	.22
EBR	0	0	29		114	
WBL	1	1600	137	.09	110	.07
WBT	2	3200	699	.24*	521	.20*
WBR	0	0	56		103	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.66		.62

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	166	.10	132	.08*
NBT	2	3200	638	.24*	365	.17
NBR	0	0	133		167	
SBL	1	1600	86	.05*	121	.08
SBT	2	3200	431	.13	597	.19*
SBR	1	1600	284	.18	236	.15
EBL	1	1600	171	.11*	236	.15*
EBT	2	3200	538	.18	665	.25
EBR	0	0	32		127	
WBL	1	1600	152	.10	122	.08
WBT	2	3200	777	.26*	579	.22*
WBR	0	0	62		114	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.71		.69

### 35. Carmenita & Alondra

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	149	.09	119	.07*
NBT	2	3200	574	.22*	328	.15
NBR	0	0	120		150	
SBL	1	1600	77	.05*	109	.07
SBT	2	3200	388	.12	537	.17*
SBR	1	1600	256	.16	212	.13
EBL	1	1600	154	.10*	212	.13*
EBT	2	3200	484	.16	598	.22
EBR	0	0	29		114	
WBL	1	1600	137	.09	110	.07
WBT	2	3200	699	.24*	521	.20*
WBR	0	0	56		103	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.66		.62

### 36. Marquardt & Imperial Hwy

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	99	.06*	88	.06*
NBT	0	0	0		0	
NBR	1	1600	42	.03	184	.12
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	480	.19	1408	.49*
EBR	0	0	134		144	
WBL	1	1600	160	.10	68	.04*
WBT	2	3200	1117	.35*	733	.23
WBR	0	0	0		0	
Right Turn Adjustment Clearance Interval				.05*	NBR	.03*
						.05*
TOTAL CAPACITY UTILIZATION				.46		.67

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	142	.09*	99	.06*
NBT	0	0	0		0	
NBR	1	1600	51	.03	254	.16
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	529	.22	1752	.61*
EBR	0	0	160		214	
WBL	1	1600	200	.13	75	.05*
WBT	2	3200	1533	.48*	805	.25
WBR	0	0	0		0	
Right Turn Adjustment Clearance Interval				.05*	NBR	.06*
						.05*
TOTAL CAPACITY UTILIZATION				.62		.83



### 36. Marquardt & Imperial Hwy

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	128	.08*	89	.06*
NBT	0	0	0		0	
NBR	1	1600	46	.03	229	.14
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	476	.19	1577	.55*
EBR	0	0	144		193	
WBL	1	1600	180	.11	67	.04*
WBT	2	3200	1380	.43*	724	.23
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.05*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.56		.75

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	134	.08*	98	.06*
NBT	0	0	0		0	
NBR	1	1600	51	.03	254	.16
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	531	.22	1751	.61*
EBR	0	0	160		211	
WBL	1	1600	200	.13	75	.05*
WBT	2	3200	1533	.48*	806	.25
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.61		.83

# 36. Marquardt & Imperial Hwy

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	121	.08*	88	.06*
NBT	0	0	0		0	
NBR	1	1600	46	.03	229	.14
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	478	.19	1576	.55*
EBR	0	0	144		190	
WBL	1	1600	180	.11	67	.04*
WBT	2	3200	1380	.43*	725	.23
WBR	0	0	0		0	
Right Turn Adjustment Clearance Interval				.05*	NBR	.05*
TOTAL CAPACITY UTILIZATION				.56		.75

### 37. Marquardt & Rosecrans

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5	3200	36	.02*	131	.08*
NBT	1.5		22	.02	64	.08
NBR	0		9		56	
SBL	0	0	63		147	
SBT	1	1600	72	.08*	25	.11*
SBR	1	1600	129	.08	148	.09
EBL	1	1600	121	.08*	173	.11
EBT	2	3200	486	.19	1041	.35*
EBR	0	0	117		79	
WBL	1	1600	36	.02	17	.01*
WBT	2	3200	1146	.39*	525	.19
WBR	0	0	115		94	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.62		.60

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5	3200	37	.02*	153	.10*
NBT	1.5		23	.02	67	.08
NBR	0		9		67	
SBL	0	0	66		174	
SBT	1	1600	79	.09*	33	.13*
SBR	1	1600	130	.08	169	.11
EBL	1	1600	167	.10*	192	.12
EBT	2	3200	505	.22	1074	.37*
EBR	0	0	197		114	
WBL	1	1600	56	.04	27	.02*
WBT	2	3200	1177	.43*	539	.20
WBR	0	0	200		113	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.69		.67

### 37. Marquardt & Rosecrans

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5		33	.02*	138	.09*
NBT	1.5	3200	21	.02	60	.08
NBR	0		8		60	
SBL	0	0	59		157	
SBT	1	1600	71	.08*	30	.12*
SBR	1	1600	117	.07	152	.10
EBL	1	1600	150	.09*	173	.11
EBT	2	3200	454	.20	967	.33*
EBR	0	0	177		103	
WBL	1	1600	50	.03	24	.02*
WBT	2	3200	1059	.39*	485	.18
WBR	0	0	180		102	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.63		.61

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5		37	.02*	153	.10*
NBT	1.5	3200	23	.02	67	.08
NBR	0		9		67	
SBL	0	0	67		175	
SBT	1	1600	80	.09*	32	.13*
SBR	1	1600	130	.08	169	.11
EBL	1	1600	167	.10*	193	.12
EBT	2	3200	506	.22	1075	.37*
EBR	0	0	198		114	
WBL	1	1600	56	.04	27	.02*
WBT	2	3200	1174	.43*	539	.20
WBR	0	0	192		112	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.69		.67



# 37. Marquardt & Rosecrans

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5		33	.02*	138	.09*
NBT	1.5	3200	21	.02	60	.08
NBR	0		8		60	
SBL	0	0	60		157	
SBT	1	1600	72	.08*	29	.12*
SBR	1	1600	117	.07	152	.10
EBL	1	1600	150	.09*	174	.11
EBT	2	3200	455	.20	967	.33*
EBR	0	0	178		103	
WBL	1	1600	50	.03	24	.02*
WBT	2	3200	1057	.38*	485	.18
WBR	0	0	173		101	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.62		.61

### 38. Marquardt & Alondra

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	70	.04*	96	.06*
NBT	1	1600	83	.05	64	.04
NBR	1	1600	330	.21	533	.33
SBL	1	1600	109	.07	175	.11
SBT	1	1600	147	.09*	204	.13*
SBR	1	1600	32	.02	25	.02
EBL	1	1600	8	.01*	10	.01
EBT	2	3200	435	.14	791	.25*
EBR	0	0	0		0	
WBL	1	1600	318	.20	234	.15*
WBT	1	1600	914	.61*	543	.35
WBR	0	0	55		23	
Right Turn Adjustment Clearance Interval					NBR	.14*
				.05*		.05*
TOTAL CAPACITY UTILIZATION				.80		.78

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	109	.07*	108	.07*
NBT	1	1600	83	.05	64	.04
NBR	1	1600	330	.21	533	.33
SBL	1	1600	109	.07	175	.11
SBT	1	1600	147	.09*	208	.13*
SBR	1	1600	32	.02	25	.02
EBL	1	1600	8	.01*	10	.01
EBT	2	3200	437	.14	800	.26*
EBR	0	0	5		39	
WBL	1	1600	318	.20	237	.15*
WBT	1	1600	925	.61*	557	.36
WBR	0	0	58		26	
Right Turn Adjustment Clearance Interval					NBR	.13*
				.05*		.05*
TOTAL CAPACITY UTILIZATION				.83		.79

# 38. Marquardt & Alondra

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	98	.06*	97	.06*
NBT	1	1600	75	.05	58	.04
NBR	1	1600	297	.19	480	.30
SBL	1	1600	98	.06	157	.10
SBT	1	1600	132	.08*	187	.12*
SBR	1	1600	29	.02	22	.01
EBL	1	1600	7	.00	9	.01
EBT	2	3200	393	.12	720	.24*
EBR	0	0	4		35	
WBL	1	1600	286	.18	213	.13*
WBT	1	1600	832	.55*	501	.33
WBR	0	0	52		23	
Right Turn Adjustment					NBR	.12*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.74		.72

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	109	.07*	108	.07*
NBT	1	1600	83	.05	64	.04
NBR	1	1600	330	.21	533	.33
SBL	1	1600	109	.07	175	.11
SBT	1	1600	147	.09*	208	.13*
SBR	1	1600	32	.02	25	.02
EBL	1	1600	8	.01*	10	.01
EBT	2	3200	437	.14	800	.26*
EBR	0	0	6		39	
WBL	1	1600	318	.20	237	.15*
WBT	1	1600	925	.61*	557	.37
WBR	0	0	58		27	
Right Turn Adjustment					NBR	.13*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.83		.79

# 38. Marquardt & Alondra

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	98	.06*	97	.06*
NBT	1	1600	75	.05	58	.04
NBR	1	1600	297	.19	480	.30
SBL	1	1600	98	.06	157	.10
SBT	1	1600	132	.08*	187	.12*
SBR	1	1600	29	.02	22	.01
EBL	1	1600	7	.00	9	.01
EBT	2	3200	393	.12	720	.24*
EBR	0	0	5		35	
WBL	1	1600	286	.18	213	.13*
WBT	1	1600	832	.55*	501	.33
WBR	0	0	52		24	
Right Turn Adjustment					NBR	.12*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.74		.72



### 39. I-5 NB Ramps & Alondra

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	89	.06*	158	.10*
SBT	0	0	0		0	
SBR	1	1600	15	.01	98	.06
EBL	1	1600	90	.06*	23	.01
EBT	2	3200	836	.31	1179	.44*
EBR	0	0	151		234	
WBL	1	1600	149	.09	201	.13*
WBT	2	3200	1278	.45*	718	.25
WBR	0	0	175		67	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.62		.72

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	90	.06*	162	.10*
SBT	0	0	1		5	
SBR	1	1600	15	.01	101	.06
EBL	1	1600	90	.06*	23	.01
EBT	2	3200	838	.31	1188	.44*
EBR	0	0	151		234	
WBL	1	1600	151	.09	216	.14*
WBT	2	3200	1292	.46*	735	.25
WBR	0	0	184		71	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.63		.73

### 39. I-5 NB Ramps & Alondra

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	81	.05*	146	.09*
SBT	0	0	1		4	
SBR	1	1600	13	.01	91	.06
EBL	1	1600	81	.05*	21	.01
EBT	2	3200	754	.28	1069	.40*
EBR	0	0	136		211	
WBL	1	1600	136	.09	194	.12*
WBT	2	3200	1163	.42*	661	.23
WBR	0	0	166		64	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.57		.66

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	90	.06*	162	.10*
SBT	0	0	1		5	
SBR	1	1600	15	.01	101	.06
EBL	1	1600	90	.06*	23	.01
EBT	2	3200	838	.31	1188	.44*
EBR	0	0	151		234	
WBL	1	1600	153	.10	216	.14*
WBT	2	3200	1292	.46*	736	.25
WBR	0	0	184		71	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.63		.73

### 39. I-5 NB Ramps & Alondra

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	81	.05*	146	.09*
SBT	0	0	1		4	
SBR	1	1600	13	.01	91	.06
EBL	1	1600	81	.05*	21	.01
EBT	2	3200	754	.28	1069	.40*
EBR	0	0	136		211	
WBL	1	1600	138	.09	194	.12*
WBT	2	3200	1163	.42*	662	.23
WBR	0	0	166		64	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.57		.66

#### 40. Valley View & Alondra

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	136	.09*	131	.08*
NBT	2	3200	949	.36	1130	.44
NBR	0	0	197		293	
SBL	1	1600	52	.03	76	.05
SBT	2	3200	1015	.43*	979	.41*
SBR	0	0	367		335	
EBL	1	1600	220	.14*	258	.16
EBT	2	3200	432	.15	905	.33*
EBR	0	0	59		154	
WBL	1	1600	191	.12	174	.11*
WBT	2	3200	944	.31*	529	.19
WBR	0	0	51		86	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.02		.98

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	178	.11*	165	.10*
NBT	2	3200	985	.37	1146	.45
NBR	0	0	197		293	
SBL	1	1600	52	.03	76	.05
SBT	2	3200	1017	.44*	998	.42*
SBR	0	0	377		344	
EBL	1	1600	222	.14*	265	.17
EBT	2	3200	432	.15	910	.34*
EBR	0	0	61		167	
WBL	1	1600	191	.12	174	.11*
WBT	2	3200	948	.31*	534	.19
WBR	0	0	51		86	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.05		1.02



#### 40. Valley View & Alondra

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	178	.11*	165	.10*
NBT	2	3200	985	.37	1146	.45
NBR	0	0	197		293	
SBL	1	1600	52	.03	76	.05
SBT	2	3200	1017	.44*	998	.42*
SBR	0	0	377		344	
EBL	2	3200	222	.07*	265	.08
EBT	2	3200	432	.15	910	.34*
EBR	0	0	61		167	
WBL	2	3200	191	.06	174	.05*
WBT	2	3200	948	.31*	534	.19
WBR	0	0	51		86	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.98		.96

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	160	.10*	148	.09*
NBT	2	3200	886	.33	1031	.40
NBR	0	0	177		264	
SBL	1	1600	47	.03	68	.04
SBT	2	3200	915	.39*	898	.38*
SBR	0	0	339		310	
EBL	2	3200	200	.06*	238	.07
EBT	2	3200	389	.14	819	.30*
EBR	0	0	55		150	
WBL	2	3200	172	.05	157	.05*
WBT	2	3200	853	.28*	481	.17
WBR	0	0	46		77	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.88		.87

#### 40. Valley View & Alondra

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	178	.11*	165	.10*
NBT	2	3200	985	.37	1146	.45
NBR	0	0	197		293	
SBL	1	1600	52	.03	76	.05
SBT	2	3200	1017	.44*	998	.42*
SBR	0	0	377		345	
EBL	1	1600	222	.14*	265	.17
EBT	2	3200	432	.15	910	.34*
EBR	0	0	61		167	
WBL	1	1600	191	.12	174	.11*
WBT	2	3200	948	.31*	534	.19
WBR	0	0	51		86	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.05		1.02

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	178	.11*	165	.10*
NBT	2	3200	985	.37	1146	.45
NBR	0	0	197		293	
SBL	1	1600	52	.03	76	.05
SBT	2	3200	1017	.44*	998	.42*
SBR	0	0	377		345	
EBL	2	3200	222	.07*	265	.08
EBT	2	3200	432	.15	910	.34*
EBR	0	0	61		167	
WBL	2	3200	191	.06	174	.05*
WBT	2	3200	948	.31*	534	.19
WBR	0	0	51		86	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.98		.96

#### 40. Valley View & Alondra

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	160	.10*	148	.09*
NBT	2	3200	886	.33	1031	.40
NBR	0	0	177		264	
SBL	1	1600	47	.03	68	.04
SBT	2	3200	915	.39*	898	.38*
SBR	0	0	339		310	
EBL	2	3200	200	.06*	238	.07
EBT	2	3200	389	.14	819	.30*
EBR	0	0	55		150	
WBL	2	3200	172	.05	157	.05*
WBT	2	3200	853	.28*	481	.17
WBR	0	0	46		77	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.88		.87

#### 41. Carmenita & Excelsior/I-5 NB Ramps

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	195	.12*	141	.09*
NBT	2	3200	660	.27	680	.23
NBR	0	0	214		58	
SBL	1	1600	79	.05	50	.03
SBT	1	1600	725	.45*	814	.51*
SBR	1	1600	74	.05	124	.08
EBL	1	1600	332	.21*	241	.15*
EBT	1	1600	46	.12	17	.08
EBR	0	0	153		116	
WBL	1	1600	27	.02	122	.08
WBT	1	1600	29	.02*	143	.09*
WBR	1	1600	43	.03	53	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.85		.89

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	221	.14*	176	.11*
NBT	2	3200	770	.31	701	.24
NBR	0	0	235		67	
SBL	1	1600	83	.05	54	.03
SBT	1	1600	824	.52*	1518	.95*
SBR	1	1600	74	.05	137	.09
EBL	1	1600	920	.58*	368	.23*
EBT	1	1600	54	.14	21	.10
EBR	0	0	169		137	
WBL	1	1600	27	.02	126	.08
WBT	1	1600	29	.02*	152	.10*
WBR	1	1600	43	.03	54	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.31		1.44



#### 41. Carmenita & Excelsior/I-5 NB Ramps

Future Buildout w/Mitigation						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	221	.14*	176	.11*
NBT	2	3200	770	.31	701	.24
NBR	0	0	235		67	
SBL	1	1600	83	.05	54	.03
SBT	2	3200	824	.26*	1518	.47*
SBR	1	1600	74	.05	137	.09
EBL	2	3200	920	.29*	368	.12*
EBT	1	1600	54	.14	21	.10
EBR	0	0	169		137	
WBL	1	1600	27	.02	126	.08
WBT	1	1600	29	.02*	152	.10*
WBR	1	1600	43	.03	54	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.76		.85

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	199	.12*	158	.10*
NBT	2	3200	693	.28	631	.22
NBR	0	0	211		60	
SBL	1	1600	75	.05	49	.03
SBT	2	3200	742	.23*	1366	.43*
SBR	1	1600	67	.04	123	.08
EBL	2	3200	828	.26*	331	.10*
EBT	1	1600	49	.13	19	.09
EBR	0	0	152		123	
WBL	1	1600	24	.02	113	.07
WBT	1	1600	26	.02*	137	.09*
WBR	1	1600	39	.02	49	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.68		.77

#### 41. Carmenita & Excelsior/I-5 NB Ramps

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	204	.13*	174	.11*
NBT	2	3200	771	.31	702	.24
NBR	0	0	235		67	
SBL	1	1600	83	.05	54	.03
SBT	1	1600	829	.52*	1522	.95*
SBR	1	1600	74	.05	137	.09
EBL	1	1600	920	.58*	370	.23*
EBT	1	1600	54	.14	21	.10
EBR	0	0	169		138	
WBL	1	1600	27	.02	126	.08
WBT	1	1600	29	.02*	152	.10*
WBR	1	1600	43	.03	54	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			1.30		1.44	

Future Golf Course Alt. w/Mitigation						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	204	.13*	174	.11*
NBT	2	3200	771	.31	702	.24
NBR	0	0	235		67	
SBL	1	1600	83	.05	54	.03
SBT	2	3200	829	.26*	1522	.48*
SBR	1	1600	74	.05	137	.09
EBL	2	3200	920	.29*	370	.12*
EBT	1	1600	54	.14	21	.10
EBR	0	0	169		138	
WBL	1	1600	27	.02	126	.08
WBT	1	1600	29	.02*	152	.10*
WBR	1	1600	43	.03	54	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			.75		.86	

# 41. Carmenita & Excelsior/I-5 NB Ramps

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	184	.12*	157	.10*
NBT	2	3200	694	.28	632	.22
NBR	0	0	211		60	
SBL	1	1600	75	.05	49	.03
SBT	2	3200	746	.23*	1370	.43*
SBR	1	1600	67	.04	123	.08
EBL	2	3200	828	.26*	333	.10*
EBT	1	1600	49	.13	19	.09
EBR	0	0	152		124	
WBL	1	1600	24	.02	113	.07
WBT	1	1600	26	.02*	137	.09*
WBR	1	1600	39	.02	49	.03
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.68		.77

## 42. I-5 SB Ramps & Firestone

Existing (1992) Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	24	{.01}*	11	
NBT	1	1600	257	.18	372	.24*
NBR	1	1600	44	.03	24	.02
SBL	1	1600	239	.15	248	.16*
SBT	1	1600	577	.37*	295	.21
SBR	0	0	20		38	
EBL	0	0	22	{.01}*	53	{.03}*
EBT	1	1600	15	.02	57	.07
EBR	1	1600	92	.06	8	.01
WBL	0	0	33		67	
WBT	1	1600	61	.08*	48	.12*
WBR	0	0	26		72	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.52		.60

Future Buildout						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	24	{.01}*	11	
NBT	1	1600	344	.23	985	.62*
NBR	1	1600	45	.03	28	.02
SBL	1	1600	252	.16	264	.17*
SBT	1	1600	619	.40*	343	.24
SBR	0	0	20		38	
EBL	0	0	22	{.01}*	53	{.03}*
EBT	1	1600	15	.02	57	.07
EBR	1	1600	92	.06	8	.01
WBL	0	0	34		74	
WBT	1	1600	61	.08*	48	.12*
WBR	0	0	26		72	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.55		.99



#### 42. I-5 SB Ramps & Firestone

Future Buildout w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	22 { .01 }*		10	
NBT	1	1600	310 .21		886 .56*	
NBR	1	1600	40 .03		25 .02	
SBL	1	1600	227 .14		238 .15*	
SBT	1	1600	557 .36*		309 .21	
SBR	0	0	18		34	
EBL	0	0	20 { .01 }*		48 { .03 }*	
EBT	1	1600	13 .02		51 .06	
EBR	1	1600	83 .05		7 .00	
WBL	0	0	31		67	
WBT	1	1600	55 .07*		43 .11*	
WBR	0	0	23		65	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.50		.90

Future Golf Course Alternative						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	0	0	24 { .01 }*		11	
NBT	1	1600	345 .23		984 .62*	
NBR	1	1600	45 .03		30 .02	
SBL	1	1600	252 .16		262 .16*	
SBT	1	1600	616 .40*		328 .23	
SBR	0	0	20		38	
EBL	0	0	22 { .01 }*		53 { .03 }*	
EBT	1	1600	15 .02		57 .07	
EBR	1	1600	92 .06		8 .01	
WBL	0	0	35		74	
WBT	1	1600	61 .08*		48 .12*	
WBR	0	0	26		72	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.55		.98

# 42. I-5 SB Ramps & Firestone

Future Golf Course Alt. w/Mit. & TDM						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	22 { .01 }*	10		
NBT	1	1600	310 .21	886 .56*		
NBR	1	1600	40 .03	27 .02		
SBL	1	1600	227 .14	236 .15*		
SBT	1	1600	554 .36*	295 .21		
SBR	0	0	18	34		
EBL	0	0	20 { .01 }*	48 { .03 }*		
EBT	1	1600	13 .02	51 .06		
EBR	1	1600	83 .05	7 .00		
WBL	0	0	31	67		
WBT	1	1600	55 .07*	43 .11*		
WBR	0	0	23	65		
Clearance Interval			.05*	.05*		
TOTAL CAPACITY UTILIZATION			.50	.90		



# NOISE







**CITY OF SANTA FE SPRINGS  
DRAFT NOISE ELEMENT  
TECHNICAL MEMORANDUM**

November, 1993  
(Revised December, 1993)

J. J. Van Houten and Associates, Inc.  
1260 E. Katella Avenue  
Anaheim, CA 92805

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## INTRODUCTION

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According to the California State Administrative Code, all general plans must include a Noise Element. The Noise Element of a General Plan is the basis for achieving and maintaining environmental noise control. The Element establishes goals, policies, and programs so that residents in the City of Santa Fe Springs will be protected from excessive noise. This technical memorandum provides the background information necessary to prepare the Noise Element of the General Plan.

### STATE LAW AND GENERAL PLAN GUIDELINES

---

State law requires city and county governments to adopt a General Plan to guide development within the jurisdiction. The following sections summarize the State requirements pertaining to the Noise Element, and the relationship of the Noise Element to the other elements of the Santa Fe Springs General Plan.

#### Legislative Requirements

Recognizing the increasing human environmental impacts of noise pollution and the impact that local agency land use and circulation plans have on the community's environmental quality, the California Legislature, in 1972, mandated that a Noise Element be included as part of the city and county general plans. Guidelines have been prepared as a result of Senate Bill 860(A) (effective January 1, 1976) by the Office of Noise Control, State Department of Health, concerning the specific requirements for a Noise Element which are responsive to State Law. These guidelines<sup>1</sup> are summarized as follows:

- The noise environment throughout the city should be adequately defined in terms of community noise equivalent level (CNEL) contours for each major noise source. This involves identifying the noise sources, obtaining noise measurements,

and the preparation of a contour map.

- Noise compatibility guidelines should be established for various land uses throughout the city to assist in the planning process.
- A policy program should be developed for mitigating existing noise exposures throughout the city and to ensure that future problems are avoided.
- Enforcement programs should be identified to adequately carry out the noise mitigation policies. Within the City of Santa Fe Springs, the Department of Planning and Development is responsible for the coordination of all local noise control activities.

### **Relationship To Other General Plan Elements**

The General Plan consists of a number of different elements. Of these, the land use, circulation, housing, open space and public safety elements are most closely related to the Noise Element<sup>1</sup>.

When integrated with the Noise Element, the Land Use Element will show land uses in relation to existing and projected noise contours. In this way, compatible and incompatible land uses may be identified. The Noise Element relates to the Circulation Element since the circulation system is the primary source of noise throughout the planning area. Noise exposure will be a factor in the location and design of new arterials and the mitigation of noise from existing arterials in relation to existing and planned land uses.

Since residential and public facility (schools, parks, libraries) land uses are noise sensitive, the information provided in the Noise Element will need to be considered in the planning of future housing and public facility developments, as discussed in the Housing Element. The Noise Element also relates to the Open Space Element since excessive noise can have a detrimental impact on the enjoyment of open spaces. Therefore, the information provided in the Noise Element needs to be considered in planning for this type of land use. In addition, open space areas can be used as a buffer to mitigate noise levels at more noise-sensitive land uses.

Excessive noise can also be detrimental to a person's health or cause hearing loss over long periods of time. Therefore, the Noise Element will need to be considered in the Public Safety Element

when assessing occupational environments, and the noise exposure levels at noise-sensitive areas (residential, parks, schools, libraries, and hospitals).



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## INADEQUACIES OF THE EXISTING NOISE ELEMENT

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The City of Santa Fe Springs Noise Element was last updated in 1984. The goal of the existing noise element is to minimize the detrimental effects of noise, identified as the costs due to noise-related absenteeism, reduced efficiency, and the adverse effects of noise on an individual's health and well-being. The specific objective of the existing Noise Element is to reduce the negative impacts of noise on future developments by identifying major noise sources and compatible land uses. In order to accomplish this, the existing Noise Element provides the following implementation policies requiring the City to:

- Require noise barriers or other noise mitigation techniques in new subdivisions if developed along city streets or railroads where the existing or projected exterior community noise equivalent level (CNEL) at nearby noise-sensitive locations is greater than 65 dB.
- Pursue noise barrier construction along the Southern Pacific rail line corridor where residential zones exist adjacent to the main tracks and switching yard.
- Encourage the Southern Pacific railway to reduce the level of noise produced by train movements within the city.
- Require noise control for the exterior living space of all new residential developments within noise impact areas.
- Require noise control for the interior living spaces of all new residential developments within noise impact areas.
- Apply noise insulation requirements for the conversion of existing apartments into condominiums.
- Consider noise control requirements for all new equipment purchases.
- Review existing and proposed projects located near noise-sensitive uses with the intent to reduce unnecessary noise.

- Implement a review process concerning the City's policies and regulations affecting noise.
- Encourage its agencies to observe the State and Federal occupational safety and health noise standards.
- Encourage the enforcement of regulations (such as State vehicle code noise standards) for all privately owned, city owned, and city operated automobiles, trucks, and motorcycles operating within Santa Fe Springs.

Although these goals and policies are still mostly applicable, the City's needs require several changes. The updated Noise Element should consider (and revise, if necessary) the existing goals and implementation policies.

In addition, much of the existing Noise Element is based on outdated noise exposures. For the most part, the major noise sources in the City of Santa Fe Springs have not changed. However, new arterials have been constructed or are planned for construction, noise barriers have been installed adjacent to the railroad, and new developments have resulted in increased traffic volumes and noise exposures throughout the city, as well as an increased need for appropriate noise compatibility guidelines.

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## NOISE EVALUATION AND MEASUREMENT

---

A description of the character of a particular noise requires the following:

- The amplitude and amplitude variation of the acoustical wave,
- The frequency (pitch) content of the noise, and
- The duration of the noise.

Definitions of the most commonly used terms encountered in community noise assessments and noise control are provided in Appendix A. Of these terms, the A-weighted sound pressure level (identified as dB[A]) is the scale of measurement which is most useful in community noise measurement. This sound level is measured in decibels to provide a scale with the range and characteristics most consistent with that of people's sensitivity to sounds.

The A-weighted sound level, its application to the CNEL measure of noise exposure, and its utility in the description of ambient noise levels are discussed in the remainder of this section.

### A-WEIGHTED SOUND LEVEL

---

To establish the A-weighted sound level, the acoustical signal is detected by the microphone and then filtered to weight those portions of the noise which are most annoying to individuals. This weighting of sound energy corresponds approximately to the relative annoyance experienced by humans from noise at various frequencies. The sound levels of a few typical sources of noise which are routinely experienced by people within the City of Santa Fe Springs are listed in Figure NTM-1.

The A-weighted sound level of traffic noise and other long-term noise producing activities within and around a community varies considerably with time. Measures of this varying noise level are accomplished by obtaining statistical samples. For

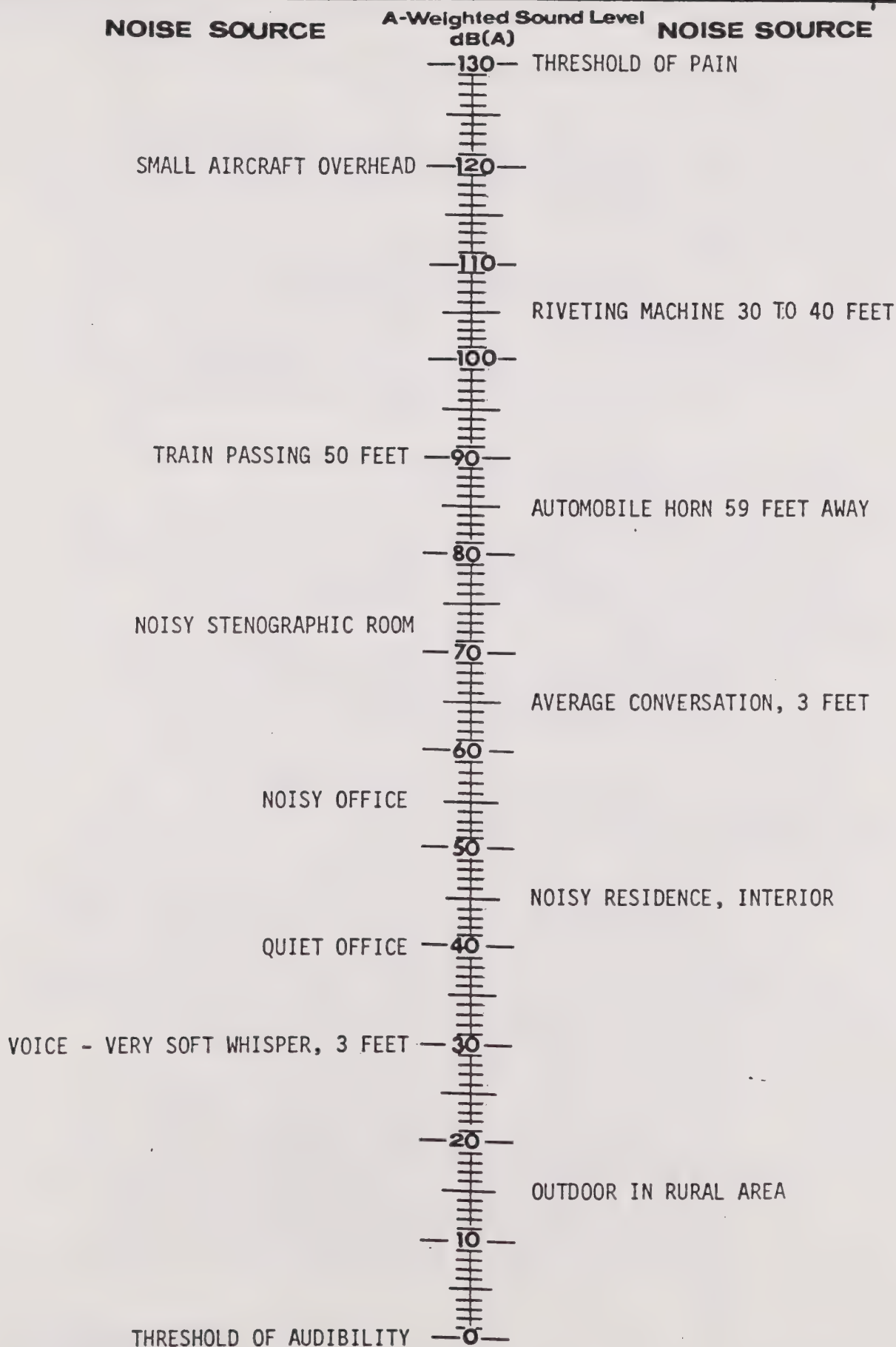


Figure NTM-1  
Representative Noise Sources  
and Levels



the purposes of this study, the following statistical values have been used:

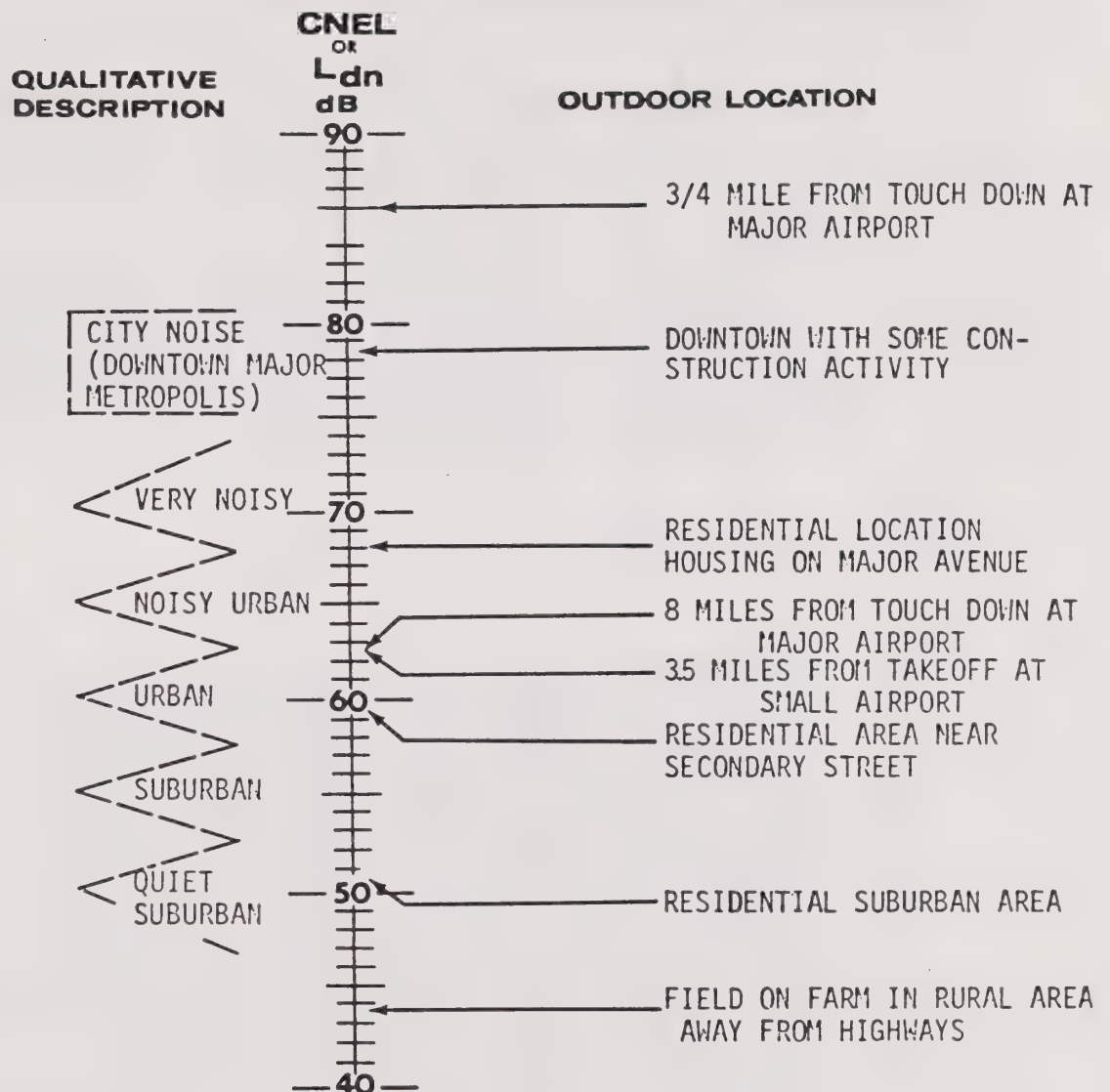
- $L_{99}$  - The minimum background noise level. This value is exceeded 99% of the time during the noise measurement period.
- $L_{50}$  - The central tendency of the sound level. This value is exceeded 50% of the time during the measurement period.
- $L_{10}$  - The near maximum sound level. This value is exceeded 10% of the time during the measurement period.
- $L_1$  - This value is exceeded 1% of the time during the measurement period.
- $L_{eq}$  - The energy equivalent sound level. This value is most representative of the long-term annoyance potential as well as other effects of the noise.

These measures may be recorded to obtain representative samples of the noise during certain time periods (e.g., peak traffic period, morning, afternoon, night, etc.).

## COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)

---

It is recognized that a given level of noise may be more or less tolerable depending on the duration of exposure and the time of day during which the noise is experienced. There are several measures of noise exposure which consider not only the variation of noise level but also include temporal characteristics. Of these, the State Department of Aeronautics and the California Department of Housing and Community Development have adopted the CNEL. This measure weights the average noise level for the evening hours (from 7:00 p.m. to 10:00 p.m.) by 5 dB, and the late evening and early morning hours (from 10:00 p.m. to 7:00 a.m.) by 10 dB. The unweighted daytime noise levels are combined with these weighted levels and averaged to obtain a CNEL value. Figure NTM-2 indicates the outdoor CNEL at typical locations throughout the Southern California area.



SOURCE: In part taken from, "Information on Levels of Environmental Noise...", U.S. Environmental Protection Agency, 550/9-74-004, March 1974.

Figure NTM-2  
Outdoor Noise Exposures at  
Various Locations

## ACCEPTABLE EXTERIOR NOISE EXPOSURES

---

Figure NTM-3 indicates the CNEL considered acceptable for various land use categories. In general, exterior noise exposures at residential locations should not exceed a CNEL of 65 dB.

The Environmental Protection Agency (EPA) has recommended a policy stating that an Ldn (or CNEL) of 55 dB not be exceeded within exterior living spaces.<sup>2</sup> However, the EPA emphasizes that this level of exposure may not be economically feasible nor, in many cases, a practical level to achieve.

## ACCEPTABLE INTERIOR NOISE EXPOSURES

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California's noise insulation standards were officially adopted by the California Department of Housing and Community Development in 1974 and became effective on August 22, 1974. On November 14, 1988, the Building Standards Commission approved revisions to these standards (Title 24, Part 2, California Code of Regulations). The ruling states that "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either ...Ldn or ...CNEL, consistent with the noise element of the local general plan." Additionally, the commission specifies that residential buildings or structures to be located within exterior CNEL (or Ldn) contours of 60 dB or greater of an existing or adopted freeway, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior CNEL (or Ldn) of 45 dB.



# Table NTM-3. Noise/Land Use Compatibility Matrix

## Land Use Category

CNEL, dB

55 60 65 70 75 80

Residential – Single family,  
multifamily, duplex

Residential – Mobile homes

Transient Lodging – Motels, hotels

Schools, Libraries, Churches,  
Hospitals, Nursing Homes

Auditoriums, Concert Halls,  
Amphitheaters, Meeting Halls

Sports Arenas, Outdoor Spectator  
Sports, Amusement Parks

Playgrounds, Neighborhood Parks

Golf Courses, Riding Stables,  
Cemeteries

Office and Professional Buildings

Commercial Retail, Banks,  
Restaurants, Theaters

Industrial, Manufacturing, Utilities,  
Wholesale, Service Stations

Agriculture

A	A	B	B	C		
A	A	B	C	C		
A	A	B	B	C	C	
A	A	B	C	C		
B	B	C	C			
A	A	A	B	B		
A	A	A	B	C		
A	A	A	A	B	C	C
A	A	A	B	B	C	
A	A	A	A	B	B	C
A	A	A	A	B	B	B
A	A	A	A	A	A	A

## Legend

A

**NORMALLY ACCEPTABLE**

Specified land use is satisfactory based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

B

**CONDITIONALLY ACCEPTABLE**

New construction or development should be undertaken only after a detailed analysis of the noise requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice

C

**NORMALLY UNACCEPTABLE**

New construction or development should generally be discouraged. If it does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



**CLEARLY UNACCEPTABLE**

New construction or development should generally not be undertaken.

Source: Taken in part from *Aircraft Noise Impact Planning Guidelines for Local Agencies*, U.S. Dept. of Housing and Urban Development, TE/NA-472, November 1972.



## **ANNOYANCE AND HEALTH CONSIDERATIONS**

---

In general, noise may affect the average individual in the following ways:

### **General Hearing Loss or Damage**

Sound levels which exceed 85 dB(A), when experienced for long durations during each working day, may result in severe temporary or even permanent hearing loss. State and federal safety and health regulations currently protect workers at levels of exposure which exceed 90 dB(A) for each 8-hour workday.

### **Interference With Oral Communication**

Speech intelligibility is impaired when sound levels exceed 60 dB(A). The amount of interference increases with sound level and distance between speaker and listener.

### **Sleep Interference**

Sound levels which exceed 40 to 45 dB(A) are generally considered to be excessive for sleeping areas within a residence.

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## EXISTING NOISE ENVIRONMENT

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The most significant noise-producing activity within the City of Santa Fe Springs involves the transportation elements: arterials, the freeways, and the rail lines. In addition, numerous fixed sources of noise exist within portions of the city. The following section provides a discussion of the noise measurements obtained and an inventory of noise sources. From these measurements and complementing analytical procedures, noise exposure contours have been derived for the City of Santa Fe Springs and noise impact areas have been identified.

### NOISE SURVEY RESULTS

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Various locations within the City of Santa Fe Springs were surveyed in May through October, 1993, to establish the existing levels of noise. These measurement sites were selected to determine the impact of noise due to traffic on the major arterials (including the Interstate 5 and 605 freeways), and train movements on the Southern Pacific rail line. A total of six (6) 24-hour noise measurements, and twenty-five (25) limited noise measurements were obtained (three times per day: morning, midday, evening) throughout the city. Figure NTM-4 provides the location of the noise measurement positions. Appendix B provides the noise level data measured at each position. It should be noted that the sound level at any location varies greatly during the day as traffic volumes fluctuate. Therefore, the results of the measurements are not necessarily indicative of long-term daily noise exposures at the measurement positions.

The following provides an inventory of noise sources measured within the City of Santa Fe Springs and the ranges of peak sound levels generated by these sources:





Figure NTM-4  
Noise Measurement  
Locations



<u>Noise Source</u>	<u>Range of Sound Levels</u>
Civilian helicopter flyover	58 to 80 dB(A)
Military helicopter flyover	61 to 80 dB(A)
Truck on city streets	65 to 91 dB(A)
Transit Bus	68 to 84 dB(A)
Motorcycles	67 to 87 dB(A)
Sports cars	55 to 85 dB(A)
Traffic on main arterials	55 to 70 dB(A)
Traffic on Interstate 5 and 605 freeways	66 to 82 dB(A)
Locomotive passby on SP railroad	65 to 70 dB(A)
Car horn sounding	75 to 90 dB(A)

These noise sources were measured at various locations throughout the city. Therefore, the noise levels are not necessarily indicative of any particular area or location.

## **COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) CONTOURS**

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Figure NTM-5 provides the CNEL contours for the existing noise environment within the City of Santa Fe Springs and Figure NTM-6 provide the contours for the future noise environment. Full scale maps are also available at the City of Santa Fe Springs Community Development Department. Both provide the CNEL contours ranging from 60 to 75 dB in 5 dB increments.

The CNEL contours for the major arterials and freeways within the City of Santa Fe Springs have been developed utilizing a methodology based on a simplified version of the Federal Highway Administration's Traffic Noise Model (FHWA-RD-77-108)<sup>3</sup>, and traffic data obtained from the City of Santa Fe Springs<sup>4,7</sup>. The railroad contours were developed based on Wyle Laboratories' computational procedures<sup>8</sup>.





Figure NTM-5a. Existing (1992) Community Noise Equivalent Level (CNEL) Contours (Refer also to Figure NTM-5b)



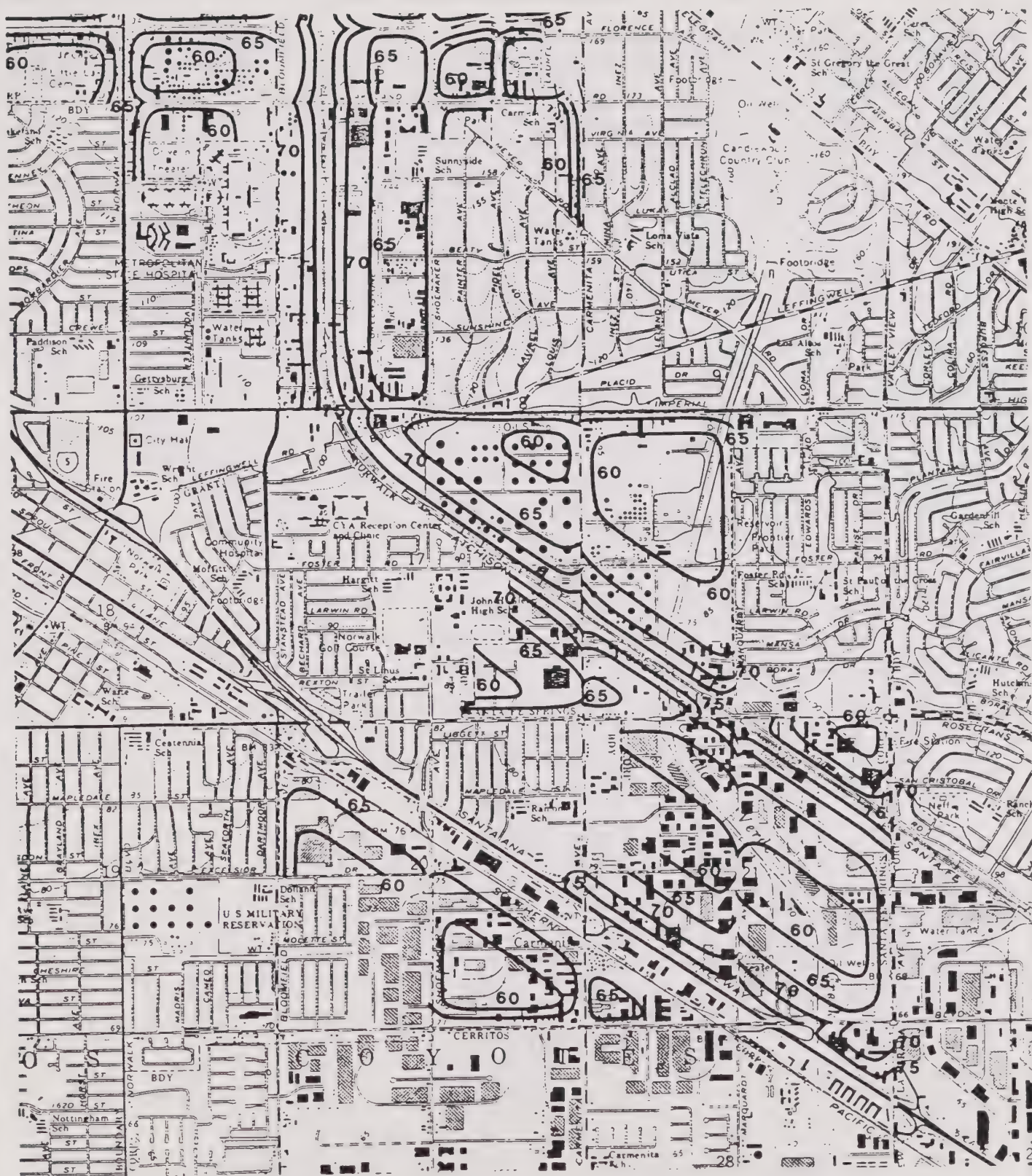


Figure NTM-5b. Existing (1992) Community Noise Equivalent Level (CNEL) Contours (Refer also to Figure NTM-5a)





Figure NTM-6a. Future (2012) Community Noise Equivalent Level (CNEL) Contours (Refer also to Figure NTM-6b)



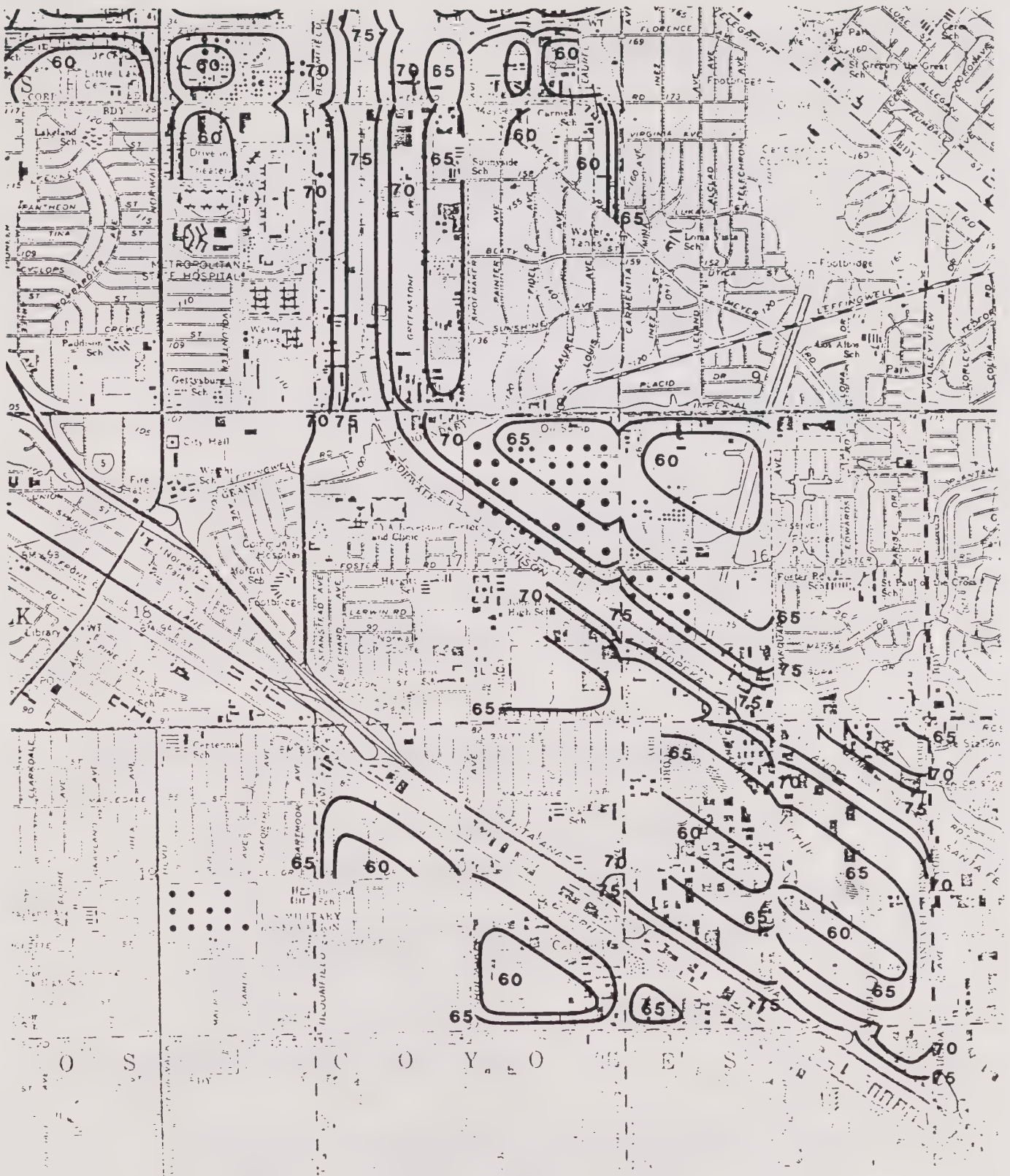


Figure NTM-6b. Future (2012) Community Noise Equivalent Level (CNEL) Contours (Refer also to Figure NTM-6a)



## **FREEWAY TRAFFIC NOISE**

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The homes adjacent to the Interstate 5 and 605 freeways are buffered by existing sound walls. The results of 24-hour measurements indicate CNELs of 66 to 68 dB at rear yards shielded from the traffic noise by the sound walls. These levels are slightly higher than is considered acceptable, but are within the noise abatement guidelines established by the Federal Highway Administration and Caltrans.

## **TRAFFIC NOISE FROM MAJOR AND SECONDARY ARTERIALS**

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The CNEL values at noise-sensitive locations directly adjacent to the following arterials exceed 65 dB. Hence, the noise exposure at these areas is considered excessive:

<u>Arterial</u>	<u>Reach</u>
Carmenita Road	Meyer to Lakeland
Florence Avenue	Orr & Day to Norwalk
Greenleaf Avenue	Telegraph to Railroad
Los Nietos Road	Pioneer to Norwalk
Orr & Day Road	Florence to Pioneer
Pioneer Blvd.	Lakeland to Telegraph, Orr & Day to Los Nietos
Telegraph Road	W. City Limits to Alburdis

## **NOISE FROM TRAIN MOVEMENTS ON THE SOUTHERN PACIFIC RAIL LINE**

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Currently, there are approximately 15 unscheduled freight operations on the Southern Pacific rail line running intermittently throughout a 24-hour day. Homes in the northern portion of the city are buffered from the train noise by existing soundwalls. A 24-hour noise measurement at a residence adjacent to the Los Nietos yard indicates an existing CNEL of 58 dB. The main line in the central portion of the city passes through commercial-industrial areas only and, therefore, does not generate a significant impact. In the southern portion of the City, the homes are not buffered by soundwalls. A 24-hour measurement in this area indicates an existing CNEL of about 66 dB.

The total number of operations on the Southern Pacific rail line is not expected to change significantly in the future. However, the impact of railway operations is not only determined by the number of train passes, but also by the time at which they occur. Therefore, an increase in nighttime operations will have a detrimental effect on the quality of life for people living in the vicinity of the tracks.

## **NOISE FROM TRAIN MOVEMENTS ON THE AT & SF RAIL LINE**

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The Santa Fe rail line currently passes through the City's commercial and industrial areas. Therefore, its impact on residential locations is insignificant. However, any future impact will depend on the location of new noise sensitive developments relative to the railroad. Any such projects should not be permitted within the 65 dB contour.

## **COMMERCIAL/INDUSTRIAL NOISE**

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In general, commercial/industrial noise within the City of Santa Fe Springs is not considered excessive. However, where noise sensitive locations are adjacent to heavy industrial zones or trucking operations, a significant impact exists. This impact is

primarily related to noise generated by loading dock operations, trucks entering and leaving the area, and mechanical equipment located both inside and outside the building(s).

## **CONSTRUCTION ACTIVITY**

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The impact of construction noise which occurs during the daytime is considered minimal for no more than two or three months of activity. However, late night and weekend disturbance caused by construction noise may cause a significant impact when experienced at nearby noise sensitive locations.

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## SUMMARY OF NOISE ISSUES, NEEDS, OPPORTUNITIES AND CONSTRAINTS

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This section summarizes the noise-related issues, opportunities, and constraints for the City of Santa Fe Springs. These will form the basis for the Noise Element goals and policies.

### NOISE ISSUES

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In the City of Santa Fe Springs, the noise issues of concern are:

- Traffic on the major arterials within the city.
- Traffic on the Interstate 5 and 605 freeways.
- Train movements on the Southern Pacific rail line.
- Trucking operations and mechanical equipment associated with commercial/industrial activities adjacent to noise sensitive locations.

These noise sources compromise the welfare of citizens throughout the city.

### NEEDS

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In order to assess the noise issues, standards should be developed to determine the impact of noise on a specific study area or receptor location. Policies that address the noise generated by the major arterials, the railroad, and trucking and mechanical operations need to be considered. The policies should identify the actions needed to address the noise issues and the City agency responsible for implementing each policy.



## OPPORTUNITIES

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Some of the opportunities that are available in order to reduce the amount of noise experienced within the City of Santa Fe Springs are:

- To include noise control and noise-related compatibility considerations in all new land use developments; and
- To enforce the city, state and federal requirements in regard to noise control, specifically: the City's noise ordinance regarding intrusive noise, the state vehicle code and provisions regarding mufflers and excessively loud radios, the state noise insulation standards for multifamily developments, and the federal and state requirements in regard to noise control in the work place.

## CONSTRAINTS

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The following constraints may limit implementing the opportunities for reducing noise within the City of Santa Fe Springs:

- Jurisdiction associated with the railroad noise belongs to outside agencies;
- Availability of manpower and expertise needed to perform noise measurements and to identify noise control measures in the enforcement of city, state and federal laws.

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## REFERENCES

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1. "Guidelines for the Preparation and Content of Noise Elements of the General Plan," Office of Noise Control, California Department of Health, February 1976.
2. "Information on Levels of Equipment Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," U.S. Environmental Protection Agency, March 1974.
3. "Highway Noise," U.S. Department of Transportation, Federal Highway Administration, FHWA-RD-77-108, FHWA Highway Traffic Noise Prediction Model, December 1978.
4. 1992 Traffic Count Index Map provided by the City of Santa Fe Springs.
5. "City of Santa Fe Springs General Plan Traffic Analysis", Austin-Foust Associates, Inc.; October 1993.
6. "City of Santa Fe Springs General Plan Circulation Element, Existing Conditions", Austin-Foust Associates, Inc.; March 1993.
7. "Santa Fe Springs General Plan Circulation Element", Austin-Foust Associates, Inc.; October 1993.
8. "Assessment of Noise Environments Around Railroad Operations," Wyle Laboratories Report WCR 73-5, July 1973.
9. "Noise Assessment Guidelines, - Technical Background", T.T. Schultz, U.S. Department of Housing and Urban Development, Report No. TE/TN 172, 1971.
10. "A Study of the Magnitude of Transportation Noise Generation and Potential Abatement," U.S. Department of Transportation (a set of seven reports), 1970.

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## REFERENCES (Cont'd)

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11. "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," U.S. Environmental Protection Agency, Report P.B. 206 717 (National Technical Information Service No. NTIS 300.1), 1971.
12. "Industrial Noise Manual," American Industrial Hygiene Association (14125 Prevost Street, Detroit, Michigan 48227), 1966.
13. "Noise Control in Multi-Family Dwellings," U.S. Department of Housing and Urban Development (supersedes FHA No. 750), 1963.

## **APPENDICES**



**APPENDIX A:**  
**DEFINITIONS**

The following common terms are used throughout the Noise Element Technical Memorandum:

## **AMBIENT NOISE**

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The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

## **AMPLITUDE**

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A measure of the difference between atmospheric pressure (with no sound present) and the total pressure (with sound present). Although there are other measures of sound amplitude, sound pressure is the fundamental measure. The unit of sound pressure is the decibel (dB).

## **A-WEIGHTED SOUND PRESSURE LEVEL, dB(A)**

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The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

## **COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)**

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The average equivalent A-weighted sound level during a 24-hour day obtained by adding five decibels to the hourly noise levels measured during the evening (from 7:00 p.m. to 10:00 p.m.) and by adding ten decibels to the hourly noise levels measured during the night (from 10:00 p.m. to 7:00 a.m.). In this way, CNEL takes into account the lower tolerance of people for noise during evening and nighttime periods.

## **DAY-NIGHT SOUND LEVEL (Ldn)**

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The measure of noise exposure used by the EPA, HUD, FAA and the Department of Defense. It is the same as CNEL except that the weighting considered (in CNEL) between the hours from 7:00 p.m. to 10:00 p.m. is eliminated. Throughout this technical memorandum, Ldn and CNEL are assumed to be the same measure. This is consistent with the recommended practice of the State of California Office of Noise Control.

## **DECIBEL (dB)**

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A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the measured sound to the reference pressure, which is 20 micropascals. Because they are logarithmic, decibels are not additive. If two noise sources produce the same amount of noise (say 100 dB each), the total noise level will be 103 dB, not 200 dB. An increase in noise level of 10 dB is generally perceived as being twice as loud.

## **EXTERIOR LIVING SPACE**

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Open area designed for outdoor living and/or recreation.

## **MAXIMUM NOISE LEVEL**

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The maximum instantaneous noise level that occurs during a specific time interval. In acoustics, the maximum sound pressure level is understood to be for single events unless some other kind of level is specified.

## **NOISE**

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Annoying, harmful, or unwanted sound.

## **NOISE BARRIER**

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A structure designed to mitigate the impact generated by a noise source (e.g., an arterial or rail line) at an adjacent noise sensitive location. Barriers should be continuous structures (without gaps) and should be constructed of a material that is impervious to noise (e.g., concrete block, stucco-on-wood, wood-on-wood, 1/4" tempered plate glass, earthen berm, or any combination of these materials).

## **NOISE CONTOUR**

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A line drawn about a noise source indicating constant levels of noise exposure. CNEL is the metric utilized herein to describe community exposure to noise.

## **NOISE IMPACT AREA**

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A specific area exposed to significant levels of noise.

## **NOISE REDUCTION**

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The ability of a material to reduce the noise level from one place to another or between one room and another. Noise reduction is specified in decibels.



## **NOISE-SENSITIVE LAND USES**

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Noise-sensitive land uses include, but are not limited to: residences, schools, libraries, hospitals, churches, offices, hotels, motels, and outdoor recreational areas. These typify land uses where suitability is restricted by intrusive noises. Hence, they are termed "noise-sensitive". Noise-sensitivity factors include interference with speech communication, subjective judgment of noise acceptability and relative noisiness, need for freedom from noise intrusion, and sleep interference criteria. The Land Use Element of the General Plan provides a description of the residential areas throughout the city and is considered the source for the inventory of noise-sensitive areas.

## **SOUND**

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As used herein, sound is a reaction in the ear caused by radiant energy being transmitted from a source by longitudinal pressure waves in air or some other elastic medium.

## **SOUND LEVEL METER**

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A measurement instrument containing a microphone, an amplifier, an output meter, and one or more frequency weighting networks. It is used for the determination of sound levels.

**APPENDIX B:**  
**NOISE MEASUREMENT EQUIPMENT AND**  
**LISTING OF THE DATA**

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## NOISE MEASUREMENT EQUIPMENT

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The following items of equipment were used to obtain the noise measurements:

1. A-Weighted Noise Level - Analysis

Community Noise Level Analyzer, B & K Type 4426

2. Precision Sound Level Measurement per ANSI S1.4-1971

Precision Integrating Sound Level Meter, Larson Davis Laboratories,  
LDL Model 870, S/N 870A0156

3. Sound Level Meter

Larson Davis Laboratories, LDL Type 700, S/N 700B0624  
Larson Davis Laboratories, LDL Type 700, S/N 700B0625  
Larson Davis Laboratories, LDL Type 700, S/N 700B0626

4. Graphic Level Recording

Graphic Level Recorder B & K Type 2306, S/N 371482

5. Acoustical Calibration

Acoustic Calibrator, B & K Type 4230, (94 dB @ 1000 Hz), S/N  
11392255

Table 1. Summary of Noise Measurements, Santa Fe Springs

Pos. No.	Location	Date	Time	Duration	Noise Sources	A - Weighted Sound Level, dB(A)					CNEL, dB
						L1	L10	L50	L99	Leq	
1	Corner of Washington & Duchess	10/8/93	9:19 am	10 min.	Traffic on Washington	71.9	68.4	64.7	54.7	65.8	
		10/7/93	1:13 pm	10 min.		81.3	71.5	66.8	59.8	69.6	
		10/7/93	4:48 pm	10 min.		77.3	71.8	67.3	62.0	69.3	
2	Corner of Sorenson & Wakeman	10/8/93	9:36 am	10 min.	Traffic on Sorenson, industry	73.0	66.5	62.0	58.0	64.0	
		10/7/93	1:30 pm	10 min.		78.8	71.3	64.5	55.8	68.1	
		10/7/93	4:31 pm	10 min.		75.0	70.3	65.8	57.0	67.2	
3	Corner of Slauson & Beasor	10/8/93	10:49 am	10 min.	Traffic on Slauson	74.2	70.2	64.7	56.5	66.6	
		10/7/93	12:03 pm	10 min.		78.3	68.3	63.5	54.8	69.7	
		10/7/93	4:15 pm	10 min.		76.8	71.5	66.5	55.8	68.3	
4	Rear yard, 9212 Arlee Ave., 15' from 12' wall	6/17/93	10:00 am	1 hr.	Operations at Los Nietos yard	68.5	59.0	49.0	44.0	56.5	57.7
		6/17/93	1:00 pm	1 hr.		65.5	51.0	44.0	42.0	54.5	
		6/16/93	4:00 pm	1 hr.		67.0	56.5	47.5	43.5	53.5	
5	Corner of Norwalk & Pacific	9/10/93	9:45 am	10 min.	Traffic on Norwalk	76.3	72.0	65.0	51.5	68.1	
		9/9/93	12:47 pm	10 min.		77.0	72.3	66.3	55.3	68.4	
		9/9/93	4:34 pm	10 min.		76.5	72.5	67.5	57.0	68.9	
6	Corner of Los Nietos & John St.	9/10/93	9:29 am	10 min.	Traffic on Los Nietos	75.8	68.8	60.5	68.8	65.2	
		9/9/93	12:23 pm	10 min.		78.8	71.5	62.8	53.3	68.0	
		9/9/93	4:15 pm	10 min.		73.3	67.8	61.3	54.5	63.8	
7	Corner of Greenleaf & Barton	10/8/93	10:34 am	10 min.	Traffic on Greenleaf	73.9	67.8	56.2	45.2	63.5	
		10/7/93	2:49 pm	10 min.		76.3	71.8	67.8	51.5	68.9	
		10/7/93	5:29 pm	10 min.		76.8	70.5	62.0	48.8	66.4	
8	On Painter Rd. at south side of drainage ditch	10/8/93	10:20 am	10 min.	Traffic on Painter	78.9	74.0	67.3	48.8	70.3	
		10/7/93	3:10 pm	10 min.		80.3	76.8	70.0	52.5	72.5	
		10/7/93	5:43 pm	10 min.		79.8	76.8	70.3	57.8	72.6	
9	Rear yard, 11226 Whiteland St., 10' from 5' wall at base of slope	6/17/93	9:00 am	1 hr.	Traffic on Rt. 605	68.0	66.0	64.0	62.0	64.0	66.2
		6/17/93	12:00 pm	1 hr.		68.0	65.0	63.0	61.5	63.5	
		6/16/93	3:00 pm	1 hr.		72.0	62.0	59.0	57.5	62.5	



Table 1, continued. Summary of Noise Measurements, Santa Fe Springs

Pos. No.	Location	Date	Time	Duration	Noise Sources	A - Weighted Sound Level, dB(A)					CNEL, dB
						L1	L10	L50	L99	Leq	
10	Corner of Flossmoor and Orr & Day	6/17/93	10:08 am	10 min.	Traffic on Orr & Day	73.5	67.0	59.8	53.5	63.7	
		6/17/93	12:08 pm	10 min.		70.8	65.3	59.3	53.3	61.7	
		6/16/93	4:49 pm	10 min.		71.8	66.8	61.3	50.0	63.6	
11	Rear yard, 10052 Cedardale, 55' from 12' wall at top of slope	5/27/93	10:00 am	1 hr.	Traffic on Rt. 605	67.0	65.0	64.0	62.5	64.0	67.8
		5/26/93	1:00 pm	1 hr.		66.5	65.0	63.5	62.5	64.0	
		5/26/93	3:00 pm	1 hr.		82.0	75.0	64.5	63.0	71.0	
12	Rear yard, 11202 Elkhurst, 16' from fence	5/27/93	8:00 am	1 hr.	Traffic on Rt. 605	66.5	63.5	62.0	60.5	62.5	65.5
		5/26/93	1:00 pm	1 hr.		69.5	64.0	62.0	60.5	62.5	
		5/26/93	3:00 pm	1 hr.		65.5	63.5	62.0	59.5	62.0	
13	Santa Fe High School, 14' east of Orr & Day	6/17/93	9:52 am	10 min.	Traffic on Orr & Day	78.3	71.8	62.5	48.8	67.7	
		6/17/93	11:44 am	10 min.		76.8	71.5	63.5	53.5	67.1	
		6/16/93	4:31 pm	10 min.		78.5	74.0	67.8	53.5	70.1	
14	Corner of Pioneer Blvd. & Garetal, 38' from Pioneer	6/17/93	9:35 am	10 min.	Traffic on Pioneer	66.3	60.3	55.0	46.5	57.5	
		6/17/93	11:24 am	10 min.		69.8	63.0	57.0	50.3	59.8	
		6/16/93	4:08 pm	10 min.		74.3	65.5	60.0	49.5	63.2	
15	Heritage Corporate Center, 121' from Telegraph	9/10/93	10:07 am	10 min.	Traffic on Telegraph	77.3	67.5	60.8	53.0	65.9	
		9/9/93	1:00 pm	10 min.		72.8	66.3	60.5	52.0	63.7	
		9/9/93	4:51 pm	10 min.		74.8	68.3	63.3	54.0	65.3	
16	East side of Santa Fe Springs Rd. across from Bell Ranch Business Park	9/10/93	9:13 am	10 min.	Traffic on Santa Fe Springs Rd.	75.3	70.3	62.3	50.8	65.8	
		9/9/93	12:06 pm	10 min.		75.3	69.5	62.5	49.5	65.6	
		9/9/93	4:00 pm	10 min.		73.8	69.8	63.3	49.8	65.9	
17	Corner of Painter & Park	10/8/93	10:03 am	10 min.	Traffic on Painter, industry	72.7	64.0	53.9	48.3	60.9	
		10/7/93	2:21 pm	10 min.		77.5	68.5	61.0	53.8	66.5	
		10/7/93	5:12 pm	10 min.		73.8	67.8	59.5	52.3	64.1	
18	Lake Center Elementary School, corner of Pioneer & Clarkman, 49' west of Pioneer	6/17/93	9:20 am	10 min.	Traffic on Pioneer	70.5	65.3	58.0	48.3	61.5	
		6/17/93	11:10 am	10 min.		70.8	66.3	62.0	51.8	63.0	
		6/16/93	3:52 pm	10 min.		81.5	70.5	66.0	54.8	70.2	

Table 1, continued. Summary of Noise Measurements, Santa Fe Springs

Pos. No.	Location	Date	Time	Duration	Noise Sources	A - Weighted Sound Level, dB(A)					CNEL, dB
						L1	L10	L50	L99	Leq	
19	Corner of Florence & Hathaway, 85' north of Florence	6/17/93	9:04 am	10 min.	Traffic on Florence	75.8	69.8	65.3	56.8	67.2	
		6/17/93	10:52 am	10 min.		74.8	70.0	64.0	52.8	66.4	
		6/16/93	3:31 pm	10 min.		74.8	69.3	64.5	54.8	66.2	
20	Corner, Bloomfield & Emmens, 71' from Bloomfield	9/10/93	8:52 am	10 min.	Traffic on Bloomfield	75.8	70.0	60.8	54.5	66.1	
		9/9/93	11:42 am	10 min.		72.3	66.3	58.8	54.8	62.8	
		9/9/93	3:44 pm	10 min.		73.0	67.8	61.0	56.0	64.0	
21	Rear yard, 11270 Ringwood, about 45' from railroad, about 65' from wall on berm adjacent to Rt. 5	5/27/93	10:00 am	1 hr.	Trains, traffic on Rt. 5	74.5	62.5	59.5	57.5	62.5	66.0
		5/27/93	12:00 pm	1 hr.		66.0	63.5	61.0	59.5	61.5	
		5/26/93	4:00 pm	1 hr.		69.0	62.0	59.5	57.5	61.0	
22	Rear yard, 11206 Ringwood, 2' from fence	6/17/93	10:00 am	1 hr.	Train operations	69.5	53.5	50.5	48.5	59.0	64.1
		6/17/93	1:00 pm	1 hr.		67.0	66.0	66.0	65.5	72.0	
		6/16/93	3:00 pm	1 hr.		60.0	55.5	53.5	51.5	54.0	
23	Little Lake Park, off Lakeland	6/17/93	8:50 am	10 min.	Traffic on Lakeland & Pioneer	76.3	70.3	57.3	52.0	66.1	
		6/17/93	10:37 am	10 min.		78.8	72.3	61.3	51.3	68.1	
		6/16/93	3:08 pm	10 min.		80.3	73.8	64.8	--	69.9	
24	Corner of Meyer Rd. & Shoemaker	6/7/93	10:24 am	10 min.	Traffic on Shoemaker	90.0	77.0	64.5	54.0	77.0	
		5/27/93	12:26 pm	10 min.		79.5	73.0	64.8	54.0	69.1	
		5/27/93	3:34 pm	10 min.		80.3	74.0	68.0	52.8	70.5	
25	School at corner of Lakeland & Carmenita	6/7/93	10:54 am	10 min.	Traffic on Carmenita & Lakeland	82.8	72.5	63.3	54.0	70.8	
		5/27/93	1:00 pm	10 min.		77.3	71.3	62.8	55.0	67.4	
		5/27/93	4:04 pm	10 min.		83.3	74.0	66.3	56.5	71.3	
26	12118 Bloomfield Ave. across from hospital	6/7/93	10:19 am	10 min.	Traffic on Bloomfield	80.8	74.8	66.0	50.0	70.6	
		5/27/93	12:05 pm	10 min.		79.0	73.3	65.0	64.0	69.0	
		5/27/93	3:18 pm	10 min.		81.3	75.5	65.8	55.8	71.2	
27	12767 Imperial Hwy, at NE driveway	6/7/93	9:45 am	10 min.	Traffic on Imperial Hwy.	79.5	76.0	71.5	61.8	72.7	
		5/27/93	11:49 am	10 min.		79.3	74.3	68.8	49.5	70.8	
		5/27/93	3:03 pm	10 min.		80.3	75.5	70.0	56.3	72.0	

Table 1, continued. Summary of Noise Measurements, Santa Fe Springs

Pos. No.	Location	Date	Time	Duration	Noise Sources	A – Weighted Sound Level, dB(A)					CNEL, dB
						L1	L10	L50	L99	Leq	
28	Corner of Foster Road & Marquardt Ave.	5/27/93	9:59 am	10 min.	Traffic on Marquardt & Foster Rd.	86.3	72.5	63.3	46.8	72.2	
				10 min.		77.3	70.8	63.0	53.8	67.1	
				10 min.		74.3	67.0	60.5	51.0	63.9	
29	Corner of Rosecrans and Best St., 59' south of Rosecrans	5/27/93	9:06 am	10 min.	Traffic on Rosecrans	78.8	73.0	66.8	59.5	69.7	
				10 min.		81.3	72.8	65.3	59.5	70.5	
				10 min.		86.3	72.8	65.8	56.0	72.9	
30	Corner of Rosecrans and Valley View, @ building setback to Rosecrans and 169' west of Valley View	5/27/93	9:21 am	10 min.	Traffic on Rosecrans	84.3	74.3	67.3	55.0	72.1	
				10 min.		80.8	74.3	66.3	57.3	70.6	
				10 min.		80.3	74.8	67.0	59.0	71.0	
31	Corner of Alondra and Resin	5/27/93	8:32 am	10 min.	Traffic on Alondra	77.0	72.5	67.5	63.5	69.2	
				10 min.		72.3	72.3	67.0	63.5	68.8	
				10 min.		78.3	73.3	69.0	65.0	70.3	



**APPENDIX C:**

**TRAFFIC AND TRAIN NOISE ANALYSIS AND  
COMMUNITY NOISE EQUIVALENT LEVEL  
(CNEL) CONTOUR DATA**



Table 1. Distance to Existing and Projected CNEL Contour Lines, Santa Fe Springs

	ARTERIAL TYPE*	GRADE	TRUCK MIX	AVE. DAILY TRAFFIC		CNEL @ 50'		DISTANCE TO CONTOURS, 1992					DISTANCE TO CONTOURS, 2012				
				1992	2012	1992	2012	60dB	65dB	70dB	75dB	80dB	60dB	65dB	70dB	75dB	80dB
ALONDRA BOULEVARD																	
Shoemaker to Carmenita	6	AT	4.0%	22,000	22,000	70.5	70.5	320	143	56	---	---	320	143	56	---	---
Carmenita to Marquardt	6	AT	4.0%	20,000	21,000	70.0	70.0	300	130	50	---	---	300	130	50	---	---
Marquardt to Valley View	6	AT	4.0%	27,000	27,000	71.5	71.5	368	170	69	---	---	368	170	69	---	---
BLOOMFIELD AVENUE																	
Excelsior to Rosecrans	6	AT	4.0%	17,000	20,000	69.5	70.0	278	120	---	---	---	300	130	50	---	---
Imperial to Lakeland	6	AT	4.0%	12,000	14,000	68.0	68.5	215	90	---	---	---	235	100	---	---	---
Lakeland to Telegraph	6	AT	4.0%	12,000	16,000	68.0	69.0	215	90	---	---	---	255	110	---	---	---
CARMENITA ROAD																	
Alondra to Excelsior	5	AT	4.0%	21,000	22,000	69.5	69.5	278	120	---	---	---	278	120	---	---	---
Rosecrans to Foster+ ++	2	AT	4.0%	12,000	12,000	68.0	68.0	215	90	---	---	---	215	90	---	---	---
Foster to Imperial+ ++	2	AT	4.0%	12,000	12,000	68.0	68.0	215	90	---	---	---	215	90	---	---	---
Meyer to Lakeland++	4	AT	4.0%	25,000	30,000	69.0	70.0	255	110	---	---	---	300	130	50	---	---
Florence to N/O Telegraph++	4	AT	4.0%	23,000	30,000	68.5	70.0	235	100	---	---	---	300	130	50	---	---
FLORENCE AVENUE																	
Rt. 605 to Orr & Day+ ++	5	AT	4.0%	24,000	24,000	70.0	70.0	300	130	50	---	---	300	130	50	---	---
Orr & Day to Pioneer+ ++	5	AT	4.0%	24,000	24,000	70.0	70.0	300	130	50	---	---	300	130	50	---	---
Pioneer to Norwalk+ ++	5	AT	4.0%	24,000	24,000	70.0	70.0	300	130	50	---	---	300	130	50	---	---
Norwalk to Bloomfield+ ++	5	AT	4.0%	30,000	30,000	71.0	71.0	340	155	62	---	---	340	155	62	---	---
Bloomfield to Shoemaker++	5	AT	4.0%	28,000	30,000	70.5	71.0	320	143	56	---	---	340	155	62	---	---
Shoemaker to Carmenita	5	AT	4.0%	24,000	25,000	70.0	70.0	300	130	50	---	---	300	130	50	---	---
GREENLEAF AVENUE																	
Telegraph to Railroad	4	AT	4.0%	9,000	9,000	65.0	65.0	130	50	---	---	---	130	50	---	---	---
IMPERIAL HIGHWAY																	
Bloomfield to Shoemaker++	6	AT	4.0%	39,000	46,000	73.0	73.5	460	215	90	---	---	490	235	100	---	---
Shoemaker to Carmenita+ ++	6	AT	4.0%	24,000	24,000	71.0	71.0	340	155	62	---	---	340	155	62	---	---
Carmenita to E. Limits+ ++	6	AT	4.0%	24,000	24,000	71.0	71.0	340	155	62	---	---	340	155	62	---	---
LAKELAND ROAD																	
Norwalk to Shoemaker	2	AT	4.0%	6,000	6,000	65.0	65.0	130	50	---	---	---	130	50	---	---	---
Shoemaker to Carmenita	2	AT	4.0%	4,000	4,000	63.5	63.5	100	---	---	---	---	100	---	---	---	---
LOS NIETOS ROAD																	
Pioneer to Norwalk	2	AT	4.0%	7,000	7,000	65.5	65.5	143	56	---	---	---	143	56	---	---	---
Norwalk to Painter++	1	AT	4.0%	12,000	12,000	67.0	67.0	185	75	---	---	---	185	75	---	---	---

Table 1, continued

	ARTERIAL TYPE*	GRADE	TRUCK MIX	AVE. DAILY TRAFFIC		CNEL @ 50'		DISTANCE TO CONTOURS, 1992					DISTANCE TO CONTOURS, 2012				
				1992	2012	1992	2012	60dB	65dB	70dB	75dB	80dB	60dB	65dB	70dB	75dB	80dB
MARQUARDT AVENUE																	
Freeway Drive to Excelsior	1	AT	4.0%	3,000	5,000	61.5	63.5	69	---	---	---	---	100	---	---	---	---
Rosecrans to Foster	2	AT	4.0%	7,000	8,000	65.5	66.0	143	56	---	---	---	155	62	---	---	---
Foster to Imperial	2	AT	4.0%	5,000	6,000	64.0	65.0	110	---	---	---	---	130	50	---	---	---
NORWALK BOULEVARD																	
South of Lakeland++	5	AT	4.0%	21,000	30,000	69.5	71.0	278	120	---	---	---	340	155	62	---	---
Lakeland to Florence++	5	AT	4.0%	20,000	24,000	69.0	70.0	255	110	---	---	---	300	130	50	---	---
Florence to Telegraph++	6	AT	4.0%	18,000	24,000	69.5	71.0	278	120	---	---	---	340	155	62	---	---
Telegraph to Los Nietos	6	AT	4.0%	19,000	22,000	69.5	70.5	278	120	---	---	---	320	143	56	---	---
Los Nietos to Slauson	4	AT	4.0%	21,000	22,000	68.5	68.5	235	100	---	---	---	235	100	---	---	---
Slauson to Washington	4	AT	4.0%	18,000	22,000	67.5	68.5	200	83	---	---	---	235	100	---	---	---
ORR & DAY ROAD																	
Florence to Telegraph	4	AT	4.0%	16,000	16,000	67.0	67.0	185	75	---	---	---	185	75	---	---	---
Telegraph to Pioneer	4	AT	4.0%	10,000	11,000	65.0	65.5	130	50	---	---	---	143	56	---	---	---
PAINTER AVENUE																	
Lakeland to Florence	1	AT	4.0%	4,000	4,000	62.5	62.5	83	---	---	---	---	83	---	---	---	---
Florence to Telegraph	1	AT	4.0%	6,000	6,000	64.5	64.5	120	---	---	---	---	120	---	---	---	---
Telegraph to Los Nietos	4	AT	4.0%	12,000	12,000	66.0	66.0	155	62	---	---	---	155	62	---	---	---
Los Nietos to Carmenita	1	AT	4.0%	6,000	6,000	64.5	64.5	120	---	---	---	---	120	---	---	---	---
PIONEER BOULEVARD																	
Lakeland to Florence	5	AT	4.0%	10,000	10,000	66.0	66.0	155	62	---	---	---	155	62	---	---	---
Florence to Telegraph	5	AT	4.0%	16,000	13,000	68.0	67.5	215	90	---	---	---	200	83	---	---	---
Telegraph to Orr & Day	4	AT	4.0%	7,000	7,000	64.0	64.0	110	---	---	---	---	110	---	---	---	---
Orr & Day to Los Nietos	4	AT	4.0%	10,000	11,000	65.0	65.5	130	50	---	---	---	143	56	---	---	---
North of Los Nietos	4	AT	4.0%	12,000	13,000	66.0	66.5	155	62	---	---	---	170	69	---	---	---
ROSECRANS AVENUE																	
Shoemaker to Carmenita+ ++	6	AT	4.0%	30,000	30,000	71.5	71.5	368	170	69	---	---	368	170	69	---	---
Carmenita to Marquardt++	6	AT	4.0%	23,000	24,000	70.5	71.0	320	143	56	---	---	340	155	62	---	---
Marquardt to Valley View++	6	AT	4.0%	22,000	24,000	70.5	71.0	320	143	56	---	---	340	155	62	---	---
SANTA FE SPRINGS ROAD																	
Telegraph to Los Nietos	6	AT	4.0%	14,000	16,000	68.5	69.0	235	100	---	---	---	255	110	---	---	---
Los Nietos to Slauson	5	AT	4.0%	16,000	18,000	68.0	68.5	215	90	---	---	---	235	100	---	---	---

Table 1, continued

	ARTERIAL TYPE*	GRADE	TRUCK MIX	AVE. DAILY TRAFFIC		CNEL @ 50'		DISTANCE TO CONTOURS, 1992					DISTANCE TO CONTOURS, 2012				
				1992	2012	1992	2012	60dB	65dB	70dB	75dB	80dB	60dB	65dB	70dB	75dB	80dB
SHOEMAKER AVENUE																	
Alondra to Excelsior	6	AT	4.0%	10,000	10,000	67.0	67.0	185	75	---	---	---	185	75	---	---	---
Imperial to Lakeland	5	AT	4.0%	9,000	9,000	66.0	66.0	155	62	---	---	---	155	62	---	---	---
Lakeland to Florence	5	AT	4.0%	10,000	10,000	66.0	66.0	155	62	---	---	---	155	62	---	---	---
Florence to Telegraph	5	AT	4.0%	11,000	11,000	66.5	66.5	170	69	---	---	---	170	69	---	---	---
SLAUSON AVENUE																	
Norwalk to Sorenson+ ++	5	AT	4.0%	30,000	30,000	71.0	71.0	340	155	62	---	---	340	155	62	---	---
Sorenson to S. F. Springs++	5	AT	4.0%	28,000	30,000	70.5	71.0	320	143	56	---	---	340	155	62	---	---
SORENSEN AVENUE																	
Washington to Slauson+ ++	2	AT	4.0%	12,000	12,000	68.0	68.0	215	90	---	---	---	215	90	---	---	---
Slauson to Santa Fe Springs	2	AT	4.0%	7,000	7,000	65.5	65.5	143	56	---	---	---	143	56	---	---	---
TELEGRAPH ROAD																	
West of Rt. 605+ ++	4	AT	4.0%	24,000	24,000	69.0	69.0	255	110	---	---	---	255	110	---	---	---
Rt. 605 to Orr & Day+ ++	4	AT	4.0%	46,000	46,000	71.5	71.5	368	170	69	---	---	368	170	69	---	---
Orr & Day to Alburdis++	4	AT	4.0%	46,000	46,000	71.5	71.5	368	170	69	---	---	368	170	69	---	---
Alburdis to Pioneer++	4	AT	4.0%	44,000	46,000	71.5	71.5	368	170	69	---	---	368	170	69	---	---
Pioneer to Norwalk++	6	AT	4.0%	42,000	46,000	73.5	73.5	490	235	100	---	---	490	235	100	---	---
Norwalk to Bloomfield	6	AT	4.0%	33,000	37,000	72.0	72.5	395	185	75	---	---	428	200	83	---	---
Bloomfield to Painter	4	AT	4.0%	27,000	31,000	69.5	70.0	278	120	---	---	---	300	130	50	---	---
Painter to Carmenita	4	AT	4.0%	30,000	33,000	70.0	70.0	300	130	50	---	---	300	130	50	---	---
Carmenita to Gunn+ ++	4	AT	4.0%	24,000	24,000	69.0	69.0	255	110	---	---	---	255	110	---	---	---
VALLEY VIEW AVENUE																	
Route 5 to Alondra+ ++	6	AT	4.0%	24,000	24,000	71.0	71.0	340	155	62	---	---	340	155	62	---	---
Alondra to San Cristobal+ ++	6	AT	4.0%	30,000	30,000	71.5	71.5	368	170	69	---	---	368	170	69	---	---
San Cristobal to Rosecrans	6	AT	4.0%	26,000	26,000	71.0	71.0	340	155	62	---	---	340	155	62	---	---
WASHINGTON BOULEVARD																	
Norwalk to Broadway+ ++	5	AT	4.0%	24,000	24,000	70.0	70.0	300	130	50	---	---	300	130	50	---	---
Broadway to E. Limits+ ++	5	AT	4.0%	30,000	30,000	71.0	71.0	340	155	62	---	---	340	155	62	---	---

\*ARTERIAL TYPES: 1. Two Lane Highway, 35 mph  
2. Two Lane Highway, 40 mph  
3. Two Lane Highway, 45 mph  
4. Four Lane Highway, 35 mph  
5. Four Lane Highway, 40 mph  
6. Four Lane Highway, 45 mph  
7. Six Lane Highway, 50-65 mph  
8. Eight Lane Freeway, 50-65 mph

NOTE: 'AT', 'ABOVE', and 'BELOW' refer to the grade of the arterial relative to the surrounding area.

+Existing traffic volume exceeds Level of Service C capacity. Therefore, Level of Service C capacity volume has been used as a "worst case" analysis.

++Future traffic volume exceeds Level of Service C capacity. Therefore, Level of Service C capacity volume has been used as a "worst case" analysis.

Table 2. Distance to Unmitigated CNEL Contours for the Southern Pacific Rail Line Within the City of Santa Fe Springs

Distance to Tracks	CNEL, dB		
	Freight Trains	Passenger Trains	Composite Trains
200'	70	-	70
450'	65	-	65
950'	60	-	60



Table 3. Distance to Unmitigated Existing CNEL Contours for the AT & SF Rail Line Within the City of Santa Fe Springs

Distance to Tracks	CNEL, dB		
	Freight Trains	Passenger Trains	Composite Trains
150'	75	65	75
350'	70	60	70
750'	64	55	65
1,550'	59	51	60

Table 4. Distance to Unmitigated Future CNEL Contours for the AT & SF Rail Line Within the City of Santa Fe Springs

Distance to Tracks	CNEL, dB		
	Freight Trains	Passenger Trains	Composite Trains
250'	74	68	75
500'	69	63	70
1,100'	64	58	65
2,200'	59	54	60

**APPENDIX D:**  
**EFFECTS OF NOISE ON PEOPLE**





degree of speech interference may be accompanied by social disruption and a downgrading of the quality of life.

A consequence of even relatively low noise levels is sleep interference -- people being awakened or kept from falling asleep by noise. A high percentage of community complaints against noise generators stems from sleep interference. Steady, droning noise tends to be less disturbing than fluctuating noise levels. Sleep studies have linked interrupted rest to personality change and physiological deterioration.

As a matter of public health as much as community preference, noise pollution must be controlled. The latest findings of physical and emotional effects have mobilized many state and county health departments to strongly recommend a clampdown on noise levels. The areas most vulnerable to the harmful effects of sounds seem to be residential communities, particularly at night, but all human activities can be adversely affected by noise.

Effects of noise on real estate values have not been as systematically explored as have been the effects of noise on humans. Federal findings indicate that high noise levels will bring down the economic quality and value of homes, stores and offices, and this conclusion has led to the U.S. Department of Housing and Urban Development's (HUD) directive to withhold funding from projects that do not comply with acceptable noise standards. HUD's concern is divided between adverse effects on humans and economic losses. HUD, therefore, encourages the control of noise sources as well as the control of land use patterns for housing and other municipal needs, thus separating uncontrollable noise sources from residential and other noise-sensitive areas.

# ENVIRONMENTAL GENERAL







# ENVIRONMENTAL IMPACT REPORT







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**City of Santa Fe Springs  
General Plan Update**

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**FINAL  
ENVIRONMENTAL IMPACT REPORT  
RESPONSES TO COMMENTS**

Prepared for:

**City of Santa Fe Springs**

11710 Telegraph Road  
Santa Fe Springs, CA 90670-3658  
Contact: Robert G. Orpin,  
Director of Planning and Development  
(310) 868-0511

Prepared by:

**The Planning Center**

1300 Dove Street, Suite 100  
Newport Beach, California 92660  
Contacts:  
Dwayne S. Mears, Principal  
Stephanie Cohn, Project Manager  
(714) 851-9444



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# ***1 ORGANIZATION OF THE FINAL EIR***

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The City of Santa Fe Springs General Plan Update Final EIR consists of the following components:

- Draft Environmental Impact Report for City of Santa Fe Springs General Plan Update, June 22, 1994 (under separate cover);
- Final Environmental Impact Report, Responses to Comments, City of Santa Fe Springs General Plan Update, September 7, 1994, containing:
  - Comments received on the Draft EIR and responses thereto (Chapter 2);
  - Minor changes to the Draft EIR (Chapter 3);
- City of Santa Fe Springs General Plan Update Mitigation Monitoring Program, September 7, 1994 (under separate cover).

## 2 COMMENTS AND RESPONSES

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This section contains a list of persons, organizations and agencies that submitted comments on the Draft EIR and the lead agency's responses to those comments. The list of commenting persons and agencies is found in Table 1 below. This table serves as an index to the comments and responses, which follow.

TABLE 1 COMMENTS RECEIVED ON THE DRAFT EIR			
Number	Commenting Individual/Agency	Date	Page #
1	Michael Chiriatti, Jr., Chief, State Clearinghouse, Governor's Office of Planning and Research, State of California	1-Aug-94	4
2	Wilford Melton, Senior Transportation Planner, IGR/CEQA Coordinator, Advance Planning Branch, Department of Transportation	15-Aug-94	6
3	Deborah J. Smith, Chief, Planning Unit, California Regional Water Quality Control Board	30-Jun-94	8
4	Arnold I. Sherwood, Ph.D., Director, Forecasting, Analysis and Monitoring, Southern California Association of Governments	4-Aug-94	10
5	Kathleen M. Kunysz, Manager, Environmental Affairs, Metropolitan Water District of Southern California	4-Aug-94	18
6	Brian T. Sasaki, Assistant Deputy Director, Planning Division, Department of Public Works, County of Los Angeles	4-Aug-94	36
7	Brian T. Sasaki, Assistant Deputy Director, Planning Division, Department of Public Works, County of Los Angeles	24-Aug-94	39

## ***2 COMMENTS AND RESPONSES***

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8	Marie L. Pagenkopp, Engineering Technician, County Sanitation Districts of Los Angeles County	8-Aug-94	41
9	Frederick M. Hungerford, Head, Staff Services, County of Los Angeles Public Library	23-Aug-94	44
10	Mark Selheim, Principal Planner, City of Downey	2-Aug-94	46



GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET  
SACRAMENTO, CA 95814



August 1, 1994

ANDREW LAZZARETTO, JR.  
CITY OF SANTA FE SPRINGS  
11710 TELEGRAPH  
SANTA FE SPRINGS, CA 90670

Subject: SANTA FE SPRINGS GPA SCH #: 93061018

Dear ANDREW LAZZARETTO, JR.:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call Mark Goss at (916) 445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse in this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michael Chiriatti, Jr.", written over a horizontal line.

Michael Chiriatti, Jr.  
Chief, State Clearinghouse

## ***2      COMMENTS AND RESPONSES***

---

1.      MICHAEL CHIRIATTI, JR., CHIEF, STATE CLEARINGHOUSE, GOVERNOR'S OFFICE OF PLANNING AND RESEARCH, STATE OF CALIFORNIA, AUGUST 1, 1994

No response is necessary.

DEPARTMENT OF TRANSPORTATION

DISTRICT 7, 120 SO. SPRING ST.  
LOS ANGELES, CA 90012-3406  
TDD (213) 897-6610



August 15, 1994

City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, California 90670-3658

Subject: General Plan Update "City Of Santa Fe Springs"

Dear Robert G Orpin,

We have received and reviewed the above document. According to the information within, we have concluded that this project will have little impact, if any on the State Highway System.

If, you have any questions please contact Mr. Wilford Melton at (213) 897-1338.

Sincerely

*Wilford Melton*

Wilford Melton  
Senior Transportation Planner  
IGR/CEQA Coordinator  
Advance Planning Branch

cc: State Clearinghouse

## 2    *COMMENTS AND RESPONSES*

---

2.    RESPONSES TO COMMENTS FROM WILFORD MELTON, SENIOR  
TRANSPORTATION PLANNER, IGR/CEQA COORDINATOR, ADVANCE  
PLANNING BRANCH, DEPARTMENT OF TRANSPORTATION, AUGUST 15,  
1994

No response is necessary.



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION101 CENTRE PLAZA DRIVE  
MONTEREY PARK, CA 91754-2156  
(213) 266-7500  
FAX: (213) 266-7600

June 30, 1994

File : 700.377

Andrew C. Lazzaretto, Jr  
Department of Planning and Development  
11710 Telegraph Rd.  
Santa Fe Springs, CA 90670

## MASTER (DRAFT) ENVIRONMENTAL IMPACT REPORT - CITY GENERAL PLAN

Mr. Lazzaretto,

Thank you for the opportunity to review the Draft EIR for the General Plan for the City of Santa Fe Springs.

While the document acknowledges the impacts to surface water quality, it does not address the impacts to the quality of groundwater.

Santa Fe Springs lies over a portion of the Montebello Forebay, which is an important recharge area for aquifers in the Central and West Coast Groundwater Basins. Pollutants from nonpoint sources that are transported through this recharge area by urban runoff and stormwater can degrade the quality of groundwater.

Given the location of the City of Santa Fe Springs within the Montebello Forebay, the City should regard the BMPs in the various stormwater permits (i.e., the Municipal Stormwater Permit for the County of Los Angeles, the General Stormwater Permit for Construction Activity, the General Stormwater Permit for Industrial Activity) as a starting point in the protection of water quality. We encourage the City to develop a more comprehensive program for the control of these nonpoint pollutants and protection of the quality of surface and groundwater.

If you have any questions, please contact me at (213) 266-7549 or Manjunath Venkatanarayana at (213) 266-7556.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Deborah J. Smith'.

Deborah J. Smith, Chief  
Planning Unit

## **2      *COMMENTS AND RESPONSES***

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### **3.      RESPONSES TO COMMENTS FROM DEBORAH J. SMITH, CHIEF, PLANNING UNIT, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, JUNE 30, 1994.**

The importance of aquifers play in the area's water supply is acknowledged in the Draft EIR. The City will comply with the requirements of applicable stormwater permits.



818 West Seventh Street, 12th Floor • Los Angeles, California 90017-3435

(213) 236-1800 • FAX (213) 236-1825

August 4, 1994

Mr. Andrew C. Lazzaretto, Jr.  
City of Santa Fe Springs  
11710 Telegraph Rd.  
Santa Fe Springs, CA 90670

RE: Comments on the City of Santa Fe Springs General Plan Update Draft  
Environmental Impact Report (DEIR)  
SCAG Clearinghouse #19400341

Dear Mr. Lazzaretto:

Thank you for the opportunity to review and comment on the DEIR for the City of Santa Fe Springs General Plan Update. As the areawide clearinghouse for regionally significant projects, SCAG assists cities, counties, and other agencies in reviewing projects and plans for consistency with regional plans.

The attached staff comments are meant to provide guidance for considering the proposed development within the context of our regional goals and policies, which are based, in part, upon state and federal mandates. While neither the project sponsor nor the lead agency is required to undertake the specific actions recommended by SCAG or other agencies through the Intergovernmental Review Process, there are requirements in state and federal laws for consistency with regional goals and plans.

If you have any questions regarding the attached comments, please feel free to contact Maria Souza-Rountree at (213) 236-1838. She will be happy to assist you in addressing the comments presented herein.

Sincerely,

ARNOLD I. SHERWOOD, Ph.D.  
DIRECTOR  
Forecasting, Analysis and Monitoring

Stella Mendonca City of Monterey-President, Ed Edelman Los Angeles County-First Vice President, Dick Kelly City of Palmdale-Second Vice President, Gail Vazquez Ortega County-First President, • Richard Alarcon City of Los Angeles, Richard Alarcon City of Los Angeles, Robert Bardell City of Monterey, George Bass City of Bell, Ros Bates City of Los Angeles, George Butler, Jr. City of Burbank, Hal Burson City of Los Angeles, Walter Burrows City of Cypress, Marvin Brando City of Los Angeles, Susan Brando City of Rancho Palos Verdes, Art Brown City of Buena Park, Yvonne Brundwaite-Burton Los Angeles County, Jan Busby, Jr. City of Victorville, Bob Baskin Riverside County, Laura Calkins City of Los Angeles, John Cox City of Newport Beach, Cynthia Crothers City of Maricopa Valley, Bill Croya City of Laramie, Richard Olson City of Lake Forest, Doug Driscoll City of Long Beach, William Eaton City of Yreka, Joseph Enquist City of Lakewood, John Ferraro City of Los Angeles, Kerry Foley City of Calhoun, John Flynn Ventura County, Ruth Calender City of Los Angeles, Sandra Gonia City of Costa Mesa, Jackie Goldberg City of Los Angeles, Chandler Haggard City of San Clemente, Garland Harwood City of Inglewood, Mike Hernandez City of Los Angeles, Neer Holden City of Los Angeles, Robert Jamison City of Arcadia, Jeff Kellgren City of Long Beach, Abbe Lane City of West Hollywood, John Longville City of Ruston, Ron Lorreridge City of Riverside, John Melton City of Santa Paula, Barbara Meeson City of Alhambra, Judy Mills City of Santa Valley, David Myers City of Palmdale, Kimberly Nash City of Pasadena, Bev Perry City of Brea, Gwen Harris-Perry City of Chino Hills, Ben Parks City of Temecula, Irv Pickler City of Anaheim, Michael Plisky City of Oxnard, Christine Price City of New Rivers, Larry Robinson City of Mountain View, Richard Rowland City of Los Angeles, Mark Rulley-Thomson City of Los Angeles, Albert Robbins City of South Gate, Sam Shary Los Angeles County, Michael Sherr City of Compton, Rudy Sternick City of Los Angeles, Tom Sykes City of Walnut, Laurie Tully-Payne City of Highland, Joel Wachter City of Los Angeles, Bill Whitner City of Los Angeles, Judy Wright City of Longmont, Zee Yarnofsky City of Los Angeles •

## SCAG COMMENTS ON THE DEIR FOR THE CITY OF SANTA FE SPRINGS GENERAL PLAN UPDATE

### DESCRIPTION

The City of Santa Fe Springs is located approximately 13 miles southeast of downtown Los Angeles and 18 miles north of the City of Long Beach. Neighboring cities include Whittier, La Mirada, Cerritos, Norwalk, Downey, and Pico Rivera. The City lies at the convergency of two major transportation routes, Interstates 5 and 605, and is traversed by the Southern Pacific and Santa Fe rail corridors. 1

The general character of the City is industrial and commercial. Approximately ten percent of the City's 4,751 acres are currently zoned for residential uses, although none of this land is currently vacant. Vacant land that is designated either commercial or industrial will allow the development of 269 dwelling units. This would yield an estimated 896 persons for a population at buildout of 16,936 residents.

The City is committed to maintaining the single family nature of the housing stock, the provision of convenient shopping for goods and services, and the continuation of industrial activities. Currently, the City contains a large number of petroleum production facilities and oil fields. It is anticipated that these sites will be closed in the near future and available for new industrial development.

### CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN POLICIES

The recently adopted Growth Management Chapter (GMC) of SCAG's Regional Comprehensive Plan (RCP) contains a number of policies that are particularly applicable to this project. The following lists selected growth management policies of the GMC in *italics* followed by SCAG staff comments regarding the consistency of the project with those policies:

- *The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review.* 2

SCAG staff comment: The DEIR contains a slightly lower 2010 population estimate than is found in the RCP. According to the DEIR, this discrepancy is based on the City's need to accommodate additional affordable housing units, the potential for household size to increase, and housing vacancy factors. The DEIR states that the City is committed to rezoning non-residential land to provide their fair share of affordable housing.

Although the DEIR includes the 2010 household and employment figures contained in the RCP, no discussion exists to show that the land use changes proposed in the General Plan Update are consistent with these figures. SCAG



recommends that the Final EIR describe how the RCP 2010 projections and the land use goals and policies contained in the General Plan Update are consistent with one another.

- *Encourage efforts of local jurisdictions in the implementation of programs that increase the supply and quality of housing and provide affordable housing as evaluated in the Regional Housing Needs Assessment.* **3**

SCAG staff comments: The DEIR contains 13 Housing Element policies related to the issue of adequate and affordable housing for the City and the SELAC Subregion.

- *Encourage local jurisdictions' efforts to achieve a balance between the types of jobs they seek to attract and housing prices.* **4**

SCAG staff comments: Although the DEIR does not specifically address creating a balance between employment opportunities and housing prices, the DEIR contains considerable discussion on the provision of affordable housing, along with several policies that encourage the provision of a range of residential development types within the City. In addition, the DEIR states that unemployed or underemployed persons living in the City and the surrounding residential communities are expected to absorb most or all of the employment opportunities that may be generated by increased industrial development within Santa Fe Springs.

SCAG recommends that the Final EIR describe in more detail the type of existing and future employment that is likely to occur and its impact on the affordability of housing for City residents.

- *Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.* **5**

SCAG staff comments: Generally, the only land available for future development in the City are former petroleum production sites and vacant oil fields. The DEIR states that these sites will be used for new industries and the expansion of existing industries. This type of future development is considered urban infill, thereby using existing infrastructure and facilities.

- *Encourage developments in and around activity centers, transportation node corridors, underutilized infrastructure systems and areas needing recycling and redevelopment.* **6**

SCAG staff comments: As previously discussed, future development in the City will be limited to urban infill, which is adjacent to industrial centers and

transportation corridors. In addition, industrial development is anticipated to occur on vacant oil fields, thereby recycling land in the City.

- *Support provisions and incentives created by local jurisdictions to attract housing growth in job rich subregions and job growth in housing subregions.* **7**

SCAG staff comments: Santa Fe Springs is located in the Southeast Los Angeles County (SELAC) Subregion, which is jobs-rich and moving toward even greater imbalance. According to the DEIR, Santa Fe Springs had 58,991 jobs and 4,817 housing units in 1990. At buildout, the City is projected to have 71,485 jobs and 5,086 housing units. As previously discussed, opportunities to add housing in Santa Fe Springs is constrained, due to the limited available land for residential development. The policy focus of the Santa Fe Springs Housing Element is to conserve and rehabilitate existing housing. However, the City has also identified approximately 54 acres of additional non-residentially zoned land with the potential for future housing development.

SCAG recommends that the Final EIR describe Santa Fe Springs' involvement in SELAC on regional planning issues to ensure that employment and housing issues will continue to be addressed within the Subregion.

- *Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.* **8**

SCAG staff comments: As previously stated, future development in the City will be limited to industrial sites. Based on this fact, there is limited opportunity to integrate urban form as a mobility strategy. However, the DEIR contains several policies that encourage the development of public transportation support facilities, including park-and-ride lots near regional freeways and commuter rail service.

- *Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.* **9**

SCAG staff comments: As previously discussed, future development within Santa Fe Springs will be limited to industrial infill development. There are several policies in the DEIR that encourage the incorporation of design standards for proposed developments to link them to alternative modes of transportation.

- *Support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.* **10**

SCAG staff comments: The DEIR states that reuse of existing industrial land will

result in increased density of mixed industrial land uses near the Norwalk/Santa Fe Springs Transportation Center, which serves the Metrolink commuter rail line.

- *Support local jurisdictions strategies to establish mixed-use clusters and other transit-oriented developments around transit stations and along transit corridors.* **11**

SCAG staff comments: Policies contained in the DEIR continue to encourage commercial uses that are convenient to each of the residential neighborhoods. This will reduce the number of non-work vehicle trips made by residents. In addition, the redesignation of land associated with oil production from heavy industrial to mixed industrial would allow commercial, industrial, open space or residential land uses to be developed. Consequently, mixed-use developments that are convenient to existing transit stations and corridors could be constructed.

- *Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.* **12**

SCAG staff comments: The DEIR contains numerous policies that support the provision of community services.

The new Regional Mobility Chapter of the RCP also contains a variety of policies pertinent to this project. One of the most relevant policies addresses Transportation Demand Management (TDM) as follows:

- *Promote TDM programs along with transit and ridesharing facilities as a viable and desirable part of the overall mobility program while recognizing the particular needs of individual subregions.* **13**

SCAG staff comments: The circulation section of the DEIR establishes a policy foundation that includes the use of TDM strategies, such as the enhancement of public transportation and the development of bicycle routes. The DEIR discusses programs and mitigation measures related to TDM including the encouragement of telecommuting, non-motorized transportation, the use of alternative modes of transportation, as well as compliance with the Los Angeles County Congestion Management Plan and the South Coast Air Quality Management Plan. In addition, the DEIR discusses coordination with other local jurisdictions and transportation agencies, such as Caltrans and the Los Angeles Metropolitan Transportation Authority (LAMTA), to reach the City's mobility goals. In total, there are 25 mitigation measures contained in the DEIR that will help to reduce vehicle trips and vehicle miles traveled in and around the City of Santa Fe Springs.

## CONCLUSION

As described in the DEIR, the Santa Fe Springs' General Plan Update appears to be consistent with the pertinent policies and objectives of the Regional Mobility and Growth Management Chapters of the RCP. However, more discussion on the type of employment expected at buildout, as well as information on the City's subregional input regarding jobs and housing issues should be included in the Final EIR.

14

All mitigation measures associated with the project should be monitored in accordance with AB 3180 requirements and reported to SCAG through the Annual Reasonable Further Progress Reports.



## **2 COMMENTS AND RESPONSES**

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### **4. RESPONSES TO COMMENTS FROM ARNOLD I. SHERWOOD, PH.D., DIRECTOR, FORECASTING, ANALYSIS AND MONITORING, SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS, AUGUST 4, 1994.**

1. This comment describes the general character and setting of the City of Santa Fe Springs and does not require a response.
2. The City of Santa Fe Springs has the unusual condition of being predominantly non-residential in nature. As noted in the Draft EIR, the jobs/housing ratio in 1990 was 12.25 and in 2010 it is projected to reach 14.1. The inability of the City to shift these figures comes from the lack of developable land that is suitable for residential development. The only land that is available for residential development is currently industrially zoned. The majority of these properties are contaminated and/or adversely impacted by subsurface soils gas. For safety reasons, this land is not suitable for residential purposes. The City's General Plan update seeks to maintain the existing housing stock in good condition, seek housing opportunities where possible, and put former oil production sites to economic use.
3. The City of Santa Fe Springs has identified policies encouraging the retention of affordable housing.
4. The City is continuing its efforts to encourage redevelopment of the three Special Studies Areas, but further review concerning the specifics of such development and its employment generation is unwarranted and highly speculative at this time.
5. The proposed General Plan update is consistent with this policy; no response is necessary.
6. The focus on the City's three Special Study Areas is consistent with this policy.
7. As described, the City of Santa Fe Springs is severely constrained by the lack of developable residential land and land that would be suitable for rezoning to allow residential development. Consequently, its policy options related to providing additional housing opportunities is limited. As mentioned, the City is a member of the Southeast Los Angeles County subregion.
8. The proposed General Plan update is consistent with this policy; no further response is necessary.
9. The proposed General Plan update is consistent with this policy; no further response is necessary.

## **2      *COMMENTS AND RESPONSES***

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10.    The proposed General Plan update is consistent with this policy; no further response is necessary.
11.    The proposed General Plan update is consistent with this policy; no further response is necessary.
12.    The proposed General Plan update is consistent with this policy; no further response is necessary.
13.    The proposed General Plan update is consistent with this policy; no further response is necessary.
14.    The finding that the proposed General Plan update is consistent with the applicable policies and objectives of the Regional Mobility and Growth Management Chapters of the RCP is appreciated. Please refer to Response #4 for a response to the comment concerning additional employment information.

AUG 09 1994

**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

AUG 04 1994

Mr. Andrew Lazzaretto  
Department of Planning and Development  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, California 90670

Dear Mr. Lazzaretto:

Draft Environmental Impact Report for the  
City of Santa Fe Springs General Plan Update

We have received the Draft Environmental Impact Report (DEIR) for the City of Santa Fe Springs (City) General Plan Update. The City proposes to add an environmental element to its General Plan, and update six of the seven existing elements. The comments herein represent the Metropolitan Water District's (Metropolitan) response as a potentially affected public agency.

Facilities

Our review of the DEIR indicates that Metropolitan's Lower Feeder traverses the proposed project site, in an east/west direction. The attached map shows Metropolitan's facility in relation to the proposed project. It will be necessary to consider this facility in your project planning. **1**

In order to avoid potential conflicts with Metropolitan's facility, we request that preliminary prints of all improvement plans for any activity in the area of Metropolitan's pipelines and rights-of-way be submitted for our review and written approval. You may obtain detailed prints of drawings of Metropolitan's pipelines and rights-of-way by calling Metropolitan's Substructures Information Line at (213) 217-6564. A statement of guidelines for development in Metropolitan's facilities area, fee properties or easements has been attached for your information.

Water Supplies

Page 188 of the DEIR refers to both the Santa Fe Springs Municipal Water District and the Metropolitan Water District as MWD. To eliminate any confusion, Metropolitan suggests that the Final Environmental Impact Report (FEIR) refer to the Metropolitan Water District as MWD, and the Santa Fe Springs Municipal Water District by another acronym. **2**

Mr. Lazzaretto

-2-

AUG 04 1994

Metropolitan also suggests that paragraph four on page 188 read as follows:

"There are no deficiencies in the water system. Fifty percent of the water distributed by the Santa Fe Springs Municipal Water District is from well water; the remaining 50 percent is obtained from the Central Basin Municipal Water District, which in turn purchases water from the Metropolitan Water District (MWD). The City of Santa Fe Springs maintains two four- million gallon reservoirs. The total water usage in 1991/92 was 8,250 acre-feet."

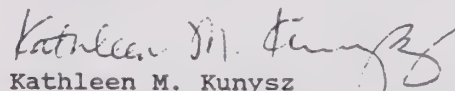
As indicated in the previous paragraph, 50 percent of the City's water is supplied by water wells, and 50 percent is ultimately supplied by MWD. Page 190 of the DEIR, however, states that the City receives 45 percent of its water from water wells, and 55 percent from MWD. Metropolitan suggests that this set of numbers be consistent throughout the FEIR.

Water Conservation

Metropolitan requests that the City include conservation Best Management Practices (BMPs) in mitigation measure policies in the FEIR for water consumption. A BMPs list is attached for your information. 3

We appreciate the opportunity to provide input to your planning process. If we can be of further assistance, please contact me at (213) 217-6272.

Very truly yours,



Kathleen M. Kunysz  
Manager, Environmental Affairs

AMR

Attachments



Metropolitan Water District of Southern California

Best Management Practices

1. Interior and exterior water audits and incentive programs for single-family residential, multi-family residential, and governmental/institutional customers.
2. Plumbing, new and retrofit:
  - A. Enforcement of requirement for ultra-low flush toilets in all new construction beginning January 1, 1992;
  - B. Support of State and Federal legislation prohibiting sale of toilets using more than 1.6 gallons per flush; and
  - C. Plumbing retrofit.
3. Distribution system water audits, leak detection and repair.
4. Metering with commodity rates for all new connections and retrofit of existing connections.
5. Large landscape water audits and incentives.
6. Landscape water conservation requirements for new and existing commercial, industrial, institutional, governmental, and multi-family developments.
7. Public information.
8. School education.
9. Commercial and industrial water conservation.
10. New commercial and industrial water use review.
11. Conservation pricing.
12. Landscape water conservation for new and existing single-family houses.
13. Water waste prohibition.
14. Water conservation coordinator.
15. Financial incentives.
16. Ultra-low-flush toilet replacement.

LOS ANGELES CO.

DETAIL



MAP — COPYRIGHT © 1990 BY Thomas Data Maps

Guidelines for Developments in the  
Area of Facilities, Fee Properties, and/or Easements  
of The Metropolitan Water District of Southern California

1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.



e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes, provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.



a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alignment as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assist others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

l. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ CONDUIT"

o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.



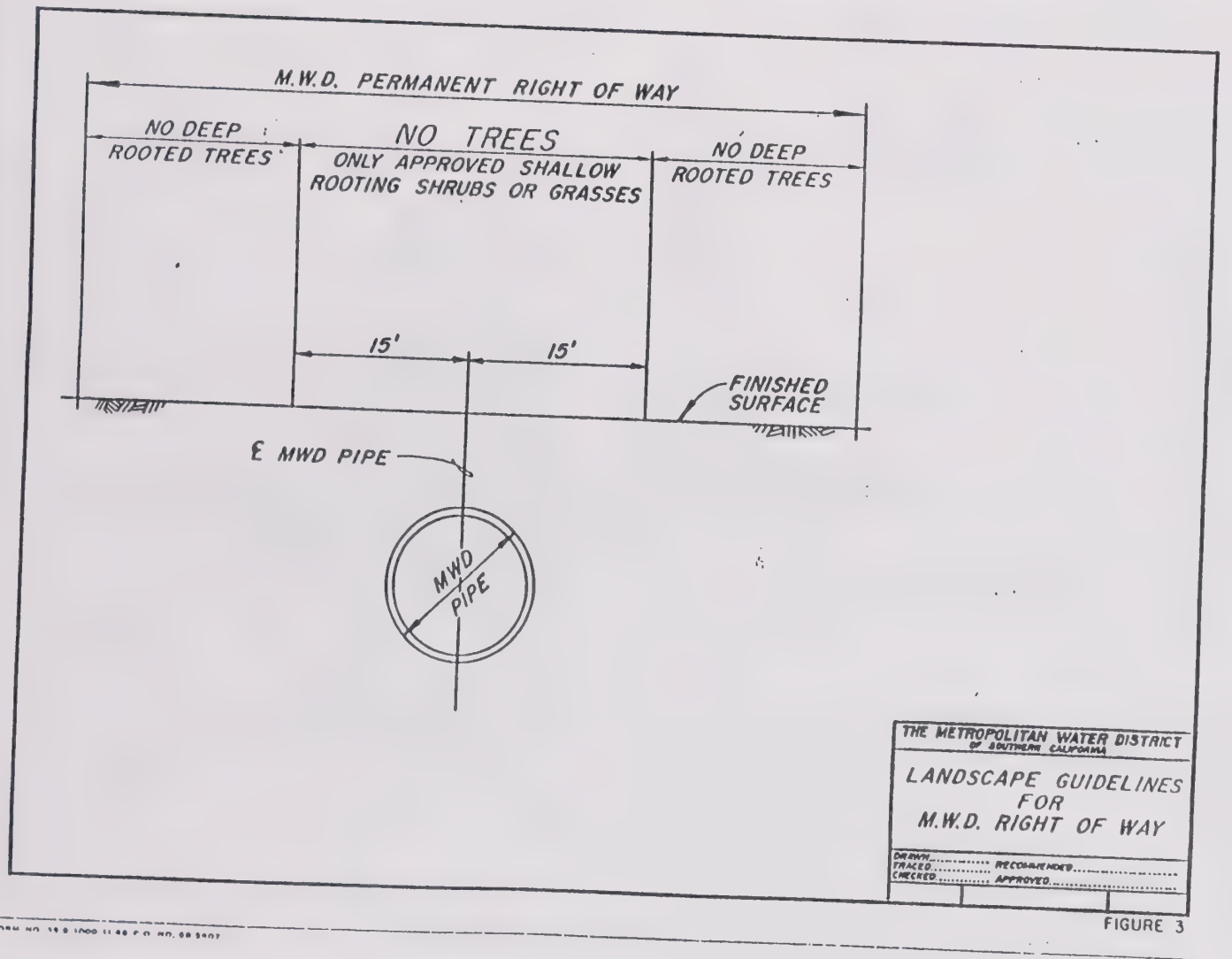
giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.



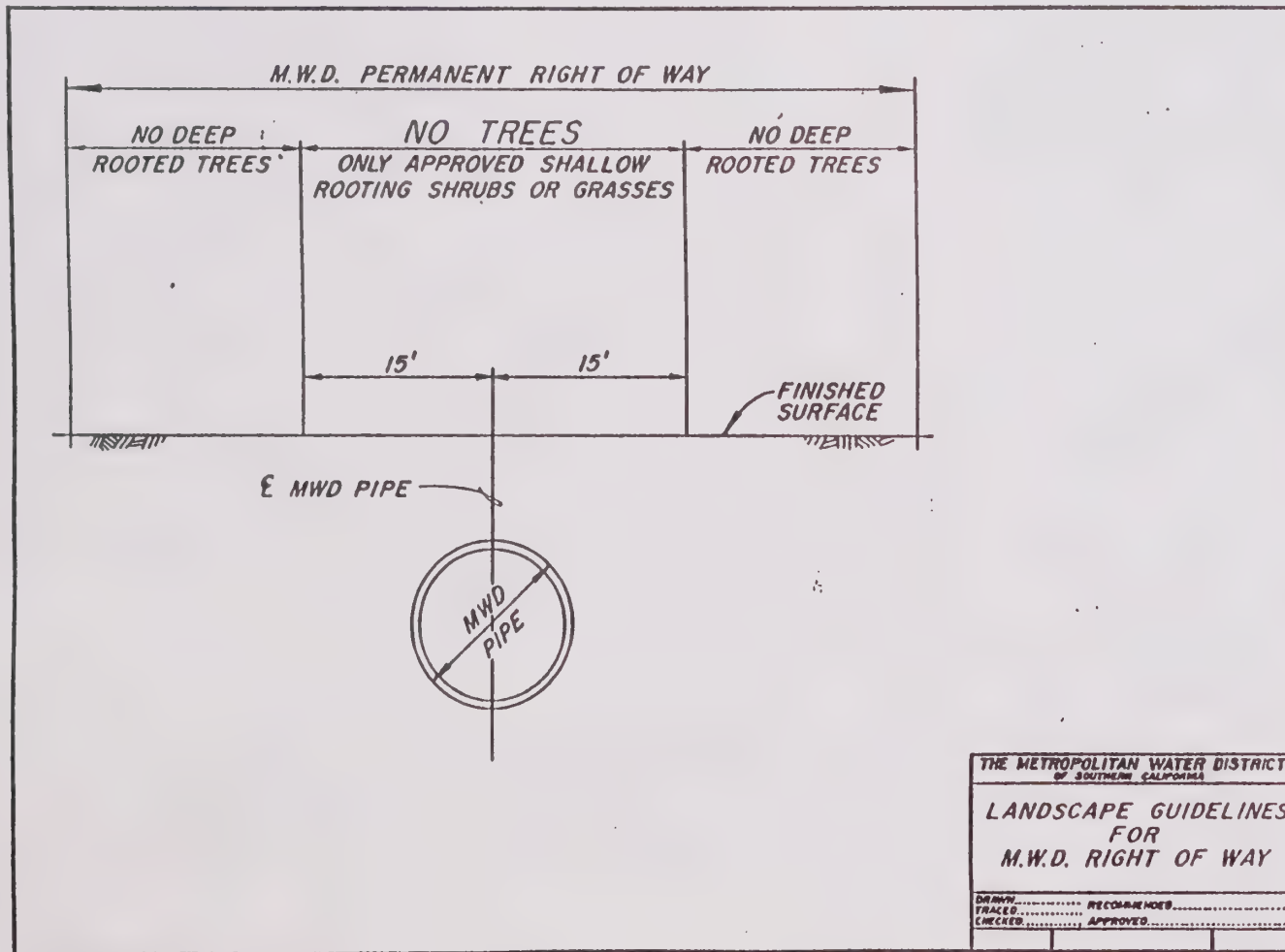


FIGURE 3

31  
SHEET 1 OF 1  
CLASIFIED 1988

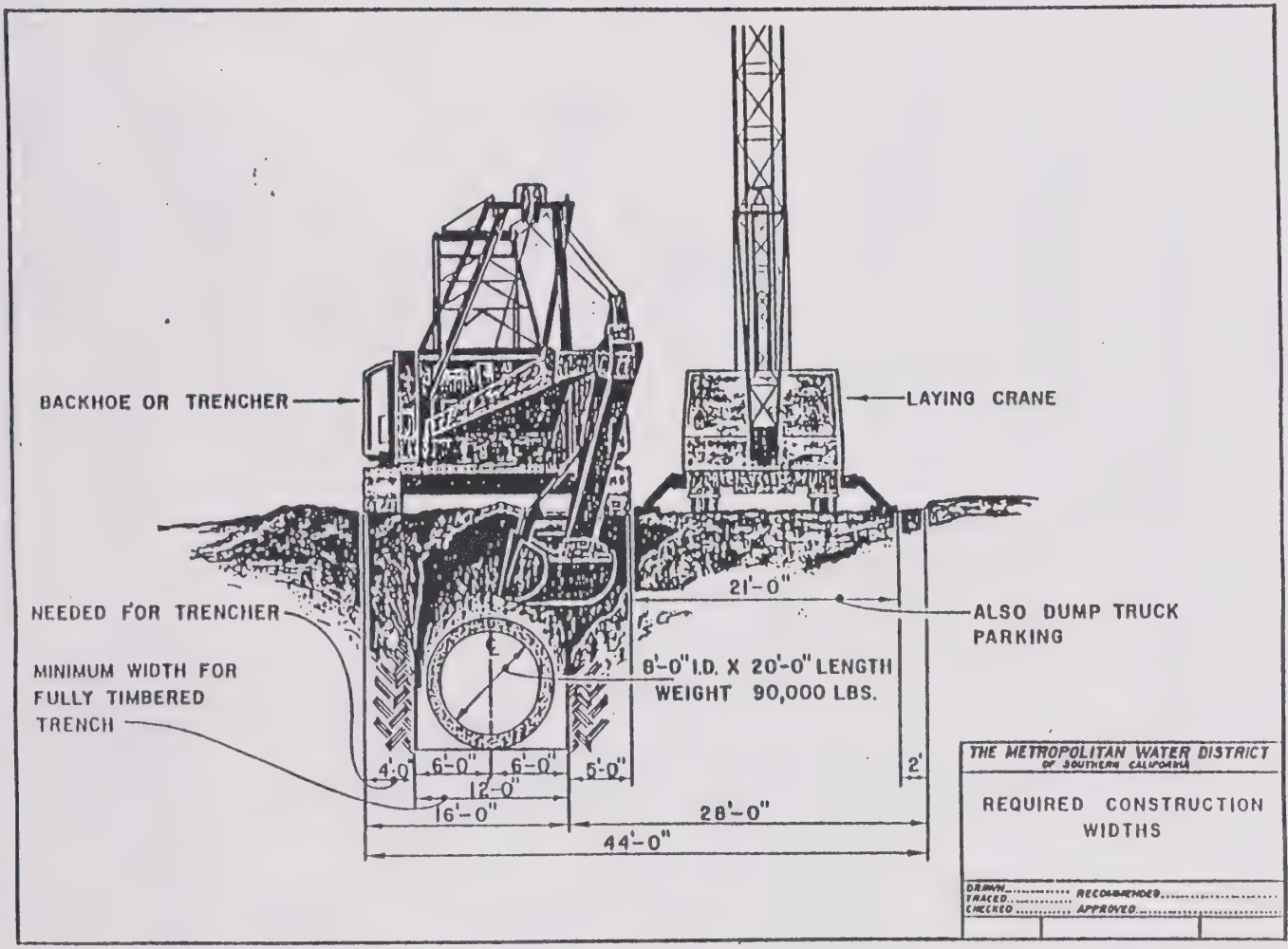
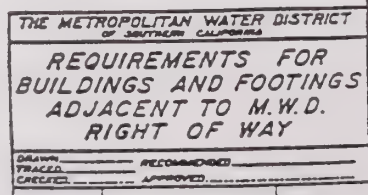
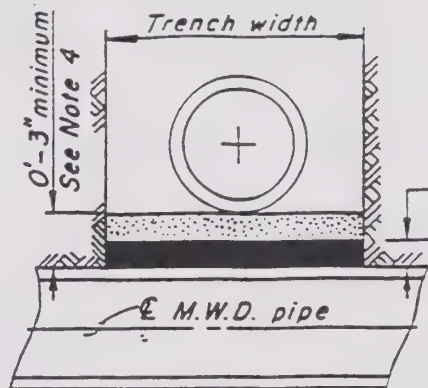


FIGURE 1

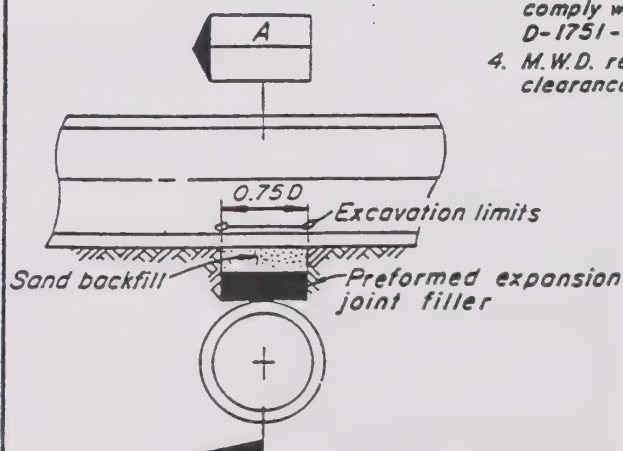




34



SECTION A



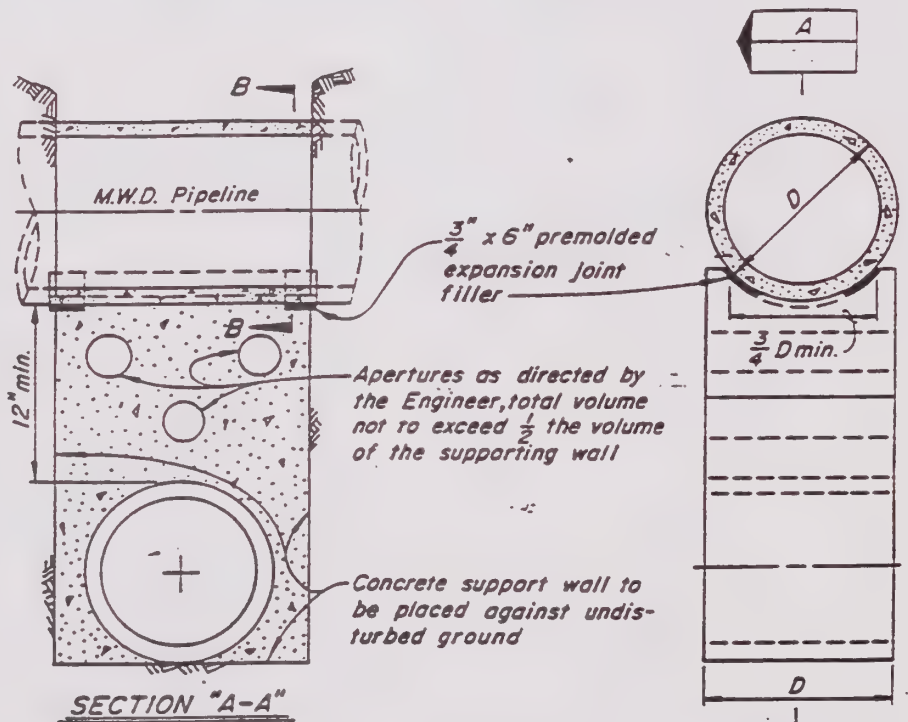
CROSS SECTION

3" Preformed expansion joint filler

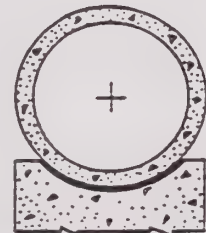
NOTES

1. This method to be used where the utility line is 24" or greater in diameter and the clearance between the utility line and M.W.D. pipe is 12" or less.
2. Special protection may be required if the utility line diameter is greater than M.W.D. pipe or if the cover over the utility line to the street surface is minimal and there is 12" or less clearance between M.W.D. pipe and the utility line.
3. Preformed expansion joint filler to comply with ASTM designation D-1751-73.
4. M.W.D. requests 12" minimum clearance whenever possible.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	
TYPICAL EXPANSION JOINT FILLER PROTECTION FOR OVCROSSING OF M.W.D. PIPELINE	
DRAWN	RECOMMENDED
TRACED	APPROVED
CHECKED	
IC-11632	



1. Supporting wall shall have a firm bearing on the subgrade and against the side of the excavation.
2. Premolded expansion joint filler per ASTM D-1751-73 to be used in support for steel pipe only.
3. If trench width is 4 feet or greater, measured along centerline of M.W.D. pipe, concrete support must be constructed.
4. If trench width is less than 4 feet, clean sand back-fill, compacted to 90% density in accordance with the provisions of ASTM Standard D-1557-70 may be used in lieu of the concrete support wall.



THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	
TYPICAL SUPPORT FOR M.W.D. PIPELINE	
DRAWN	RECOMMENDED
TRACED	APPROVED
CHECKED	
C-9547	

## 2 COMMENTS AND RESPONSES

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### 5. RESPONSES TO COMMENTS FROM KATHLEEN M. KUNYSZ, MANAGER, ENVIRONMENTAL AFFAIRS, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, AUGUST 4, 1994.

1. The location of MWD's Lower Feeder line, the offer to receive detailed drawings of this and other facilities, and MWD's request to receive preliminary plans of any improvement plans for review and approval, are acknowledged. No further response is necessary.
2. The potential for confusion is acknowledged. The Santa Fe Springs Municipal Water District will be referred to as SFS MWD.

As suggested, paragraph four on page 188 is modified as follows:

There are no deficiencies in the water system. Fifty percent of the water distributed is *through the Santa Fe Springs water system* is from well water (see Figure 35); the remaining 50 percent is *obtained from the Central Basin Municipal Water District, which in turn purchases water from the Metropolitan Water District (MWD).* ~~supplied by the MWD.~~ The City of Santa Fe Springs maintains two four million gallon reservoirs. The total water usage in 1991/92 was 8,250 acre-feet.

The first sentence of the last paragraph on page 190 is modified as follows:

The City receives ~~50~~ 45 percent of its water from deep water wells (see Figure 36) and ~~50~~ 55 percent from the Central Basin Municipal Water District.

3. The proposed Circulation Element of the General Plan already contains a number of policies related to water conservation. The Best Management Practices identified in the attachment will be considered for inclusion into the Circulation Element.





THOMAS A. TIDEMANSON, Director

## COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (818) 458-5100

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

August 4, 1994

IN REPLY PLEASE REFER TO FILE: P-5

Mr. Andrew C. Lazzaretto, Jr.  
City of Santa Fe Springs  
Department of Planning and Development  
11710 Telegraph Road  
Santa Fe Springs, CA 90670

Dear Mr. Lazzaretto:

### RESPONSE TO A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE CITY OF SANTA FE SPRINGS GENERAL PLAN UPDATE

Thank you for the opportunity to provide comments on the Draft EIR for the proposed General Plan Update Project. Although we have not completed the review of the Draft EIR, we offer the following comments. We will forward additional comments when we complete our review.

#### Traffic/Circulation

We request the traffic element of the Draft EIR be revised to include an analysis of County intersections and roadways adjacent to and within the sphere of influence of the City. We consider midrange Level of Service D (volume to capacity greater than 0.85), the point beyond which mitigation is required. This criteria should be used when evaluating the County intersections and roadways.

We believe a development of this magnitude could significantly impact the adjacent roadways and intersections in the unincorporated areas of the County of Los Angeles. A traffic study should be prepared on a project-by-project basis to identify traffic impacts to ensure that appropriate mitigation measures are proposed. If traffic signals or other mitigation measures are warranted at the affected intersections, the developer should contribute to the cost. In addition, the developer should determine his proportional share of signal or other mitigation costs. We request the opportunity to review and provide comments on the individual traffic study documents when they become available.

We recommend the State of California Department of Transportation and the adjacent cities review this General Plan Update for impacts/mitigations within their jurisdictions.

Mr. Andrew W. Lazzaretto, Jr.  
August 4, 1994  
Page 2

If you have any questions regarding these comments, please contact Ms. Junyi Zhao of our Traffic and Lighting Division at (818) 458-5909.

Drainage Planning

2

Currently we do not have any storm drain projects under study in the project area. However, your City has identified drainage deficiencies within the project area. Enclosed is a location map showing these drainage needs.

Your City should consider including measures to address these drainage needs as part of their general plan update.

If you have any questions regarding these comments, please contact Mr. Jerry Chang of our Planning Division at (818) 458-4325.

If you have any questions regarding the environmental reviewing process of this Department, please contact Ms. Clarice Nash at the previous page address or at (818) 458-4334.

Very truly yours,

HARRY W. STONE  
Acting Director of Public Works

*Michael H. Sasaki*

*for* BRIAN T. SASAKI  
Assistant Deputy Director  
Planning Division

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Enc.

## **2 COMMENTS AND RESPONSES**

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### **6. RESPONSES TO COMMENTS FROM BRIAN T. SASAKI, ASSISTANT DEPUTY DIRECTOR, PLANNING DIVISION, DEPARTMENT OF PUBLIC WORKS, COUNTY OF LOS ANGELES AUGUST 4, 1994.**

1. Specific development proposals will be subject to the requirements of the California Environmental Quality Act. It is anticipated that any large projects that might impact area intersections would require project-level traffic studies. The County of Los Angeles will be given the opportunity to review such studies as they are considered.

The Draft EIR has been circulated to all adjacent municipal jurisdictions and the California Department of Transportation.

2. Policy 3.5.1 of the Safety Element states that "The City will continue its commitment to implementation of the Storm Drain Master Plan and work with the County to do the same."



HARRY W. STONE, Director

COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (818) 458-5100

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

August 24, 1994

IN REPLY PLEASE REFER TO FILE P-5

Mr. Andrew C. Lazzaretto, Jr.  
City of Santa Fe Springs  
Department of Planning and Development  
11710 Telegraph Road  
Santa Fe Springs, CA 90670

Dear Mr. Lazzaretto:

**RESPONSE TO A DRAFT ENVIRONMENTAL IMPACT REPORT FOR  
THE CITY OF SANTA FE SPRINGS GENERAL PLAN UPDATE**

As indicated in our letter dated August 4, 1994, we are now forwarding additional comments regarding the Draft Environmental Impact Report for the proposed General Plan Update. Our comments are as follows:

The proposed development is located within an area designated as potentially suitable for off-site hazardous waste management facilities as identified in the Los Angeles County Hazardous Waste Management Plan, September 1988, Volume II, Figure 6-1. The environmental analysis must discuss this issue and include mitigation measures for waste management facilities displacement.

If you have any questions regarding these comments, please contact Mr. Thomas S. Brachko of our Waste Management Division at (818) 458-3567.

If you have any questions regarding the environmental reviewing process of this Department, please contact Ms. Clarice Nash at the above address or at (818) 458-4334.

Very truly yours,

HARRY W. STONE  
Director of Public Works

*Michael H. Sasaki*

BRIAN T. SASAKI  
Assistant Deputy Director  
Planning Division

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## **2      *COMMENTS AND RESPONSES***

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### **7.      RESPONSES TO COMMENTS FROM BRIAN T. SASAKI, ASSISTANT DEPUTY DIRECTOR, PLANNING DIVISION, DEPARTMENT OF PUBLIC WORKS, COUNTY OF LOS ANGELES AUGUST 24, 1994.**

The City of Santa Fe Springs previously adopted a Source Reduction and Recycling Element pursuant to the requirements of Assembly Bill 939. The adoption of the proposed General Plan update would not have a direct impact on the siting of an off-site hazardous waste management facility. No further analysis is necessary.



## COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400  
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998  
Telephone: (310) 699-7411, FAX: (310) 695-6139

CHARLES W. CARRY  
Chief Engineer and General Manager

August 8, 1994

AUG 18 1994

File No: 18-00.04-00

Mr. Andrew C. Lazzaretto, Jr.  
Department of Planning and Development  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, CA 90670

Dear Mr. Lazzaretto:

### City of Santa Fe Springs General Plan Update

The County Sanitation Districts received a *Draft Environmental Impact Report* for the subject project on June 27, 1994. The proposed development is located within the jurisdictional boundaries of District No. 18. We offer the following comments and corrections regarding the discussion of sewerage service in your document:

#### 4.7.8 SEWER

##### A. *Environmental Setting, page 192*

The first sentence stating "the Weymouth and Diemer Treatment Plants serve the City of Santa Fe Springs" should be omitted since neither of these facilities are operated by the Districts for wastewater treatment purposes. 1

##### B. *Environmental Impacts and Mitigation Measures, page 195*

The last paragraph in this section should be modified to read as follows:

The design capacity of Districts' wastewater conveyance and treatment facilities are based on population forecasts adopted in the Southern California Association of Governments' (SCAG) 1994 Regional Comprehensive Plan (RCP). The RCP is in the process of being adopted as part of the 1994 South Coast Air Quality Management Plan (AQMP). The AQMP is jointly prepared by the South Coast Air Quality Management District (SCAQMD) and SCAG as a requirement of the Federal Clean Air Act (CAA). In order to conform with the AQMP, all expansions of Districts' facilities must be sized and service phased in a manner which will be consistent with the Growth Management element of the 1994 RCP. The Growth Management element contains a regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial which was prepared by SCAG. Specific policies included in the RCP which deal with the management of growth will be incorporated into the AQMP strategies to improve air quality in the South Coast Air Basin. The available capacity of Districts' conveyance and treatment facilities will, therefore, be limited to levels associated 2

Mr. Andrew C. Lazzaretto, Jr.

2

August 8, 1994

with approved growth identified in the adopted RCP. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels which are legally permitted and to inform you of the currently existing capacity and any proposed expansion of Districts' facilities.

If you have any questions, please contact the undersigned at (310) 699-7411, extension 2717.

Very truly yours,

Charles W. Carry



Marie L. Pagenkopp  
Engineering Technician  
Financial Planning &  
Property Management Section

MLP:eg

## 2 COMMENTS AND RESPONSES

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8. MARIE L. PAGENKOPP, ENGINEERING TECHNICIAN, COUNTY  
SANITATION DISTRICTS OF LOS ANGELES COUNTY, AUGUST 8, 1994

1. The first paragraph of section 4.7.8 is modified as follows:

~~The Weymouth and Diemer Treatment Plants serve the City of Santa Fe Springs. The City of Santa Fe Springs is located within the jurisdictional boundaries of District No. 18 of the Los Angeles County Sanitation Districts.~~

2. The design capacity of District's wastewater conveyance and treatment facilities are based on population forecasts adopted in the *Southern California Association of Governments' (SCAG) 1994 Regional Comprehensive Plan (RCP)* ~~1991 South Coast Air Quality Management Plan (AQMP)~~. *The RCP is in the process of being adopted as part of the 1994 South Coast Air Quality Management Plan (AQMD). The AQMD is jointly prepared by the South Coast Air Quality Management District (SCAQMD) and SCAG as a requirement of the Federal Clean Air Act (CAA).* In order to conform with the AQMP, all expansions of District's facilities must be sized and service phased in a manner that will be consistent with the Growth Management *element of the 1994 RCP. The Growth Management element contains a regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial, which was prepared by SCAG. Specific policies included in the RCP that deal with the management of growth will be incorporated into the AQMP strategies to improve air quality in the South Coast Air Basin.* The available capacity of Districts' conveyance and treatment facilities will, therefore, be limited to levels associated with approved growth identified in the adopted *RCP GMP/AQMP*.



Library

August 23, 1994

Dear Mr. Lazzaretto:

Very truly yours,

c: David Flint

## **2    *COMMENTS AND RESPONSES***

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### **9.    RESPONSES TO COMMENTS FROM FREDERICK M. HUNGERFORD, HEAD, STAFF SERVICES, COUNTY OF LOS ANGELES, AUGUST 23, 1994**

No response is necessary.



# City of Downey

FUTURE UNLIMITED

August 2, 1994

Mr. Andrew C. Lazzaretto, Jr.  
Department of Planning and Development  
11710 Telegraph Road  
Santa Fe Springs, CA 90670

Subject: Comments on the Master Draft EIR for the General Plan Update

Dear Mr. Lazzaretto:

Thank you for circulating the Draft EIR for Santa Fe Springs' General Plan Update to us. Our comments address the anticipated traffic impacts of the Updates' two land use scenarios. In particular, their forecasted impacts on the section of Florence Avenue from the I-605 freeway to the Florence Avenue overcrossing. We also have questions about the mitigation measure that is recommended for this section of Florence Avenue. Our comments are detailed in the paragraphs that follow.

Florence Avenue Existing/Future ADTs--The DEIR's traffic analysis shows the section of Florence Avenue east of Studebaker Road carrying 40,000 average daily trips. In contrast, our latest count shows this section of highway carrying slightly more than 49,000 vehicles per day (VPD), or about 18% more than the Draft EIR's analysis indicates. Then, when we replace the traffic study's VPD count with 49,000 average daily trips, the street's existing volume/capacity ratio increases to 1.29, instead of the Draft EIR's 1.05. **1**

Moreover, when combining our latest VPD count with Scenario 1 traffic, the street's future traffic volume would actually be 55,000 VPD, rather than 46,000 VPD as shown on Figure 17 of the Draft EIR. This translates into a volume/capacity (v/c) ratio of 1.45. Similarly, Scenario 2 traffic combined with 49,000 daily trips would increase the daily traffic volume on this segment of Florence Avenue to 53,000 VPD (with a v/c ratio of 1.39), instead of 44,000 VPD as Shown on Figure 18. It is clear that the addition of Scenario 1 or 2 traffic to the street's existing traffic volumes would make operating conditions along Florence Avenue worse. **2**

In light of these potential operating conditions, our first concern is to identify the correct VPD data. Next, if our figure does accurately reflect the street's existing volume, will more mitigation be necessary than the measure recommended in the Draft EIR and what would they be? In light of the discrepancy, and the possibility of differing degrees of mitigation needed to decrease the anticipated impacts, we urge you to contact our Engineering Division staff to identify existing conditions. **3**

Mitigation Measures--The Update's traffic analysis suggests as a mitigation measure restriping that section of Florence Avenue east of Studebaker Road from four to six lanes. In suggesting this measure the question surfaces if the Florence Avenue overcrossing is wide enough to accommodate two additional lanes? A follow up question is whether restriping the overcrossing would involve eliminating its pedestrian facility? In an effort to continue to insure pedestrian safety, the City of Downey would like to have the sidewalk along the south side of overcrossing remain. Thirdly, what role would the state Department of Transportation play in implementing this mitigation measure. Lastly, please discuss the time schedule that would be followed to implement the measure. 4

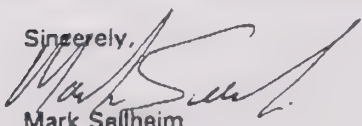
Linked to the discussion about expanding the capacity of the Florence Avenue overcrossing is the future widening of the Santa Ana freeway. What would be the impact of this project on the overcrossing? Would the project conflict with the recommended measure to increase the overcrossing's capacity? 5

ICU Analysis--Estimates show Scenario 1 and 2 adding 6,000 and 4,000 vehicles per day, respectively, to that section of Florence Avenue east of Studebaker Road. Given that the highway is already operating above capacity, we believe the Scenarios' increased traffic may negatively impact operating conditions of the intersections east of the San Gabriel freeway. With this as a possibility, we urge you to expand the traffic study's intersection capacity utilization analysis to include the Florence Avenue intersections at Fairford Avenue, Studebaker Road and the I-605 southbound ramp. In short, it seems clear that since the traffic study indicated the two scenarios would add to the street's daily traffic volumes, it should also assess the impacts to its intersections. 6

One of these intersections currently operates at level of service F (LOS) during the AM peak hour, while the others operate at LOS "D". In designing mitigation measures for any of these of intersections, please keep in mind Downey's policy regarding the acceptable LOS for intersections: Maintain intersection levels of service at "E" or better. Further, if the any of the intersections are negatively impacted, please discuss the manner in which the measures would be implemented, as well an implementation schedule. 7

Again, we thank you for circulating the DEIR to us and urge you to contact Downey's Engineering staff about the existing conditions along Florence Avenue. If you have any other questions about our comments, don't hesitate to contact me at 904-7158.

Sincerely,

  
Mark Sellheim  
Principal Planner



## **2 COMMENTS AND RESPONSES**

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### **10. RESPONSES TO COMMENTS FROM MARK SELHEIM, PRINCIPAL PLANNER, CITY OF DOWNEY, AUGUST 2, 1994.**

1. The traffic volumes in this portion of the City may have changed since the data for the Draft EIR analysis were collected. Completion of the I-105 Freeway may contribute to this shift in traffic volumes.
2. The Circulation Element would upgrade Florence Avenue Six-lane Major Highway. Based on the Draft EIR traffic analysis, this roadway would operate at an acceptable level of service. Specific development proposals within the Special Study Areas will be subject to the requirements of the California Environmental Quality Act. It is anticipated that any large projects that might impact area intersections would require project-level traffic studies. The City of Downey will be given the opportunity to review such studies as they are completed.
3. The City of Santa Fe Springs shares the commenter's concern for identifying the correct level of mitigation for Florence Avenue. It is the City's position that the proper time to more precisely define such improvements would be as specific developments projects are proposed.
- 4-7. The State Department of Transportation has restricted all activity in this area (near the freeway) until a decision is made on the widening of I-5. It is anticipated that the freeway in this area will eventually be widened and the Florence Avenue bridge will also be improved at that time. Any improvements in this area will take into consideration not only the effects to Florence Avenue, but also the impacts to the intersections of Florence Avenue and Fairford Avenue, Studebaker Road and the I-605 freeway.

To keep the level of service on Florence Avenue within acceptable standards, it is recommended that the Florence Avenue bridge located at the San Gabriel River also be widened concurrent with the improvements to Florence Avenue at the I-5 freeway.

### **3     *MINOR CHANGES TO THE DRAFT EIR***

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This chapter identifies various minor changes made to the Draft EIR. Page numbers refer to the original Draft EIR, dated June 22, 1994.

**Page 3:** Land Use Element Policy 9.1 is modified as follows:

- 9.1     Apply the following criteria in encouraging new industries to located in Santa Fe Springs and in providing for the expansion of existing industries:

**Page 3:** Circulation Element Policy 1.1 is modified as follows:

- 1.1     Development and maintain a circulation system that is based upon and is in balance with the Land Use Element of the General Plan.

**Page 3:** Circulation Element Policy 1.2 is modified as follows:

- 1.2     Maintain and implement circulation system standards for roadway and intersection classifications, right-of-way width, pavement width, design speed, capacity and associated features such as landscaping buffers and building setback requirements.

**Page 5:** Circulation Element Policies 8.4, 8.5, 8.6, and 8.7 are changed to 8.6, 8.7, 8.9, and 8.10, respectively.

**Page 5:** Mitigation Measure 4.2-1 is modified as follows:

- 4.2-1   Table 9 identifies the specific roadway improvements needed to accomplish the Circulation Element under the two land use alternatives. These improvements shall be implemented as funding allows through appropriate City programs (capital improvement programming, development approvals, etc).

**Page 6:** Mitigation Measure 4.3-1 is modified as follows:

- 4.3-2   All clearing, grading, earth moving, or excavation activities shall cease during periods of winds greater than 25 0 miles per hour average over one hour.

**Page 13:** Noise Element Policy 2.3 is modified as follows:

- 2.3     Use noise/land use compatibility standards (Table 20) as a guide for future planning and development.

### **3 MINOR CHANGES TO THE DRAFT EIR**

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**Page 14:** Strategy 7 is modified as follows:

#### **Strategy 7**

Enforce standards that specify acceptable limits of noise for various land uses throughout the City. Table ~~20 4.4E~~ provides criteria used to assess the compatibility of proposed land uses with the noise environment. These criteria are the basis of specific noise standards. These standards, presented in Table ~~21 4.4F~~, define City policy related to land uses and acceptable noise levels.

**Page 15:** Mitigation Measure 4.4-4 is modified as follows:

4.4-4            Require noise studies for development projects within the future 60 CNEL contour identified in Figures ~~28 4.4F~~ and ~~29 4.4G~~.

**Page 22:** The second impact heading in column 1 is modified as follows:

~~INCREASED~~ INCREASE IN WATER CONSUMPTION

**Page 35:** Mitigation measure #4.11-21 is modified as follows:

4.11-21            Where practical, structures *should* not to be built over a well. If construction over an abandoned well is unavoidable, an adequate gas venting system shall be placed over the well, as approved by the DOG and the City.

**Page 42:** The eleventh line of the third paragraph on this page is missing the closing parens, as follows:

The proposed updated General Plan would redesignate 579 acres of land currently designated as Heavy Industrial to Mixed Industrial. The 579 acres are divided into three special study areas (see Figure 2 and Table 1). Special Study Area I, including 226.93 acres, is currently an undeveloped oil field property and former oil refinery, north of Telegraph Road and east of Norwalk Boulevard, and the Townsite on the south side of Telegraph Road. Special Study Area II, including 92.21 acres, is currently the Powerline Oil Refinery and adjacent property. This site includes a former landfill. Special Study Area III, including 261.23 acres, is currently the Golden West Refinery and adjacent property to the west and the Amtrak Station at Imperial Highway and Bloomfield Avenue. The Mixed Industrial designation could include commercial, industrial, and open space uses and would be implemented by the zoning "Limited Manufacturing - Planned Development (ML-PD)." All three special study areas are contaminated and are in varying stages of site cleanup, under the direction of the Regional Water Quality Control Board, Los Angeles Region.



### **3 MINOR CHANGES TO THE DRAFT EIR**

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**Page 121:** Mitigation Measure 4.3-2 is modified as follows:

- 4.3-2 All clearing, grading, earth moving, or excavation activities shall cease during periods of winds greater than ~~25-0~~ miles per hour average over one hour.

**Page 160:** Policy 2.3 is modified as follows:

- 2.3 Use noise/land use compatibility standards (Table 20) as a guide for future planning ~~an~~ and development.

**Page 161:** Strategy 7 from the Noise Element is modified as follows:

#### **Strategy 7**

Enforce standards that specify acceptable limits of noise for various land uses throughout the City. Table ~~20~~ ~~4.4E~~ provides criteria used to assess the compatibility of proposed land uses with the noise environment. These criteria are the basis of specific noise standards. These standards, presented in Table ~~21~~ ~~4.4F~~, define City policy related to land uses and acceptable noise levels.

**Page 162:** Mitigation Measure 4.4-4 is modified as follows:

- 4.4-4 Require noise studies for development projects within the future 60 CNEL contour identified in Figures ~~28~~ ~~4.4F~~ and ~~29~~ ~~4.4G~~.

**Page 171:** Mitigation measure 4.5-2 is modified as follows:

- 4.5-2 The City shall require that new developments provide on-site drainage ~~redetention~~ to ensure that the capacity of downstream facilities will not be exceeded.

**Page 176:** This page is modified as follows:

~~The City of Santa Fe Springs contracts with the Los Angeles County Fire Department for fire protection and fire suppression services.~~ The Santa Fe Springs Fire Department provides a complete group of emergency response services, including fire suppression, paramedic and environmental response. Fire suppression is composed of *three* ~~four~~ engine pumps and one ladder truck. Emergency medical services (EMS) are supplied by each fire company, which is staffed by personnel that hold a mandatory Emergency Medical Technician (EMT) Certificate and are experienced *and certified* in the use of Automatic Defibrillators. A paramedic squad responds to all emergency response calls.

The Insurance Services Office (ISO) rating system is a measure of the City's overall fire protection preparedness. The rating system assigns designations of Class 1, which represents the highest level of preparedness, to a Class 10, the lowest level. The rating is based on four



### 3 **MINOR CHANGES TO THE DRAFT EIR**

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primary areas of fire defense: 1) city water supply (fire flow, distribution, hydrants and reliability); 2) communications (dispatching, radio frequencies and phone lines); 3) fire department (facilities, equipment, personnel and training); and 4) city measures (codes, controls, enforcement and mutual aid agreements). Of these four criteria, the water system is given the greatest weight. The City of Santa Fe Springs became an ISO Class 2 rated city in 1984.

Currently, four fire stations serve four sections of the City of Santa Fe Springs. Each is equipped with emergency power and is networked by communications equipment including radio, intercom and computer systems. Their locations and response times are identified in Table 23. Existing fire station locations are depicted in Figure 33.

**TABLE 23**  
**LOCATIONS AND RESPONSE TIME OF FIRE FACILITIES**

Station Number	Location	Response Time <sup>1</sup>
Station 1	11300 Greenstone Avenue	3:40 <del>4:17</del> minutes
Station 2	8634 Dice Road	5:50 <del>4:53</del> minutes
Station 3	15517 Carmenita Road	3:55 <del>2:47</del> minutes
Station 4	11736 Telegraph Road	4:23 <del>4:01</del> minutes
Paramedic Van	<i>11736 Telegraph Road</i>	4:03 <del>4:40</del> minutes

1 Response time of all shifts serving all four regions based on December ~~1993~~ 1992 data.

**Page 178:** The first paragraph on this page and Table 24 are modified as follows:

The available fire service equipment and personnel for the City of Santa Fe Springs is indicated in Table 24. As indicated in the table, major fire suppression response equipment includes *three* ~~four~~ 1,500 gpm pumpers and one 95-foot aerial platform ladder truck with 1,500 gpm pump. Specialized response equipment includes an Environment Response Unit for hazardous materials releases, a Light and Air Unit, and Urban Search and Rescue Unit and a Foam Unit for chemical fires.

### 3 MINOR CHANGES TO THE DRAFT EIR

TABLE 24  
FIRE STAFF AND EQUIPMENT RESOURCES

Staff Resources	Personnel	Equipment
Suppression	59 61 persons	4 Engines/1 Ladder Truck 1 Van - <i>Paramedic</i> <i>Automatic Manual</i> Defibrulators Drug Boxes Telemetry
Auxiliaries	28 35 person	N/A
Prevention	6 persons	N/A
Office Staff	12 persons	N/A

**Page 194:** The fourth paragraph on this page is modified as follows:

The Sanitation Districts require all industrial dischargers to pretreat their wastewater before discharging into the District's sewerage system. Pretreated industrial wastewaters are then commingled with municipal wastewaters and transported to a District treatment facility. In order to facilitate wastewater reclamation and reuse, trunk sewers that ~~are~~ serve predominantly industrial regions are routed to the JWPCP, while trunk sewers that serve predominantly residential regions are routed to water reclamation plants.

**Page 201:** The first sentence beginning on this page is modified as follows:

*Adopted as part of the SRRE in April 1993,* ~~t~~The following are specific source reduction objectives for the short-term planning period:

**Page 235:** The second full paragraph on this page is eliminated:

~~Spills into the waterways pose long ranging threats to the environment. Spills entering the sewer system flow through the Hyperion Treatment plant and then into Santa Monica Bay. Small spills can be treated at the plant. Large spills upset the treatment process and result in the spillage of the chemicals and other untreated sewage into the harbors.~~

**Page 239:** Figure 26 identifies 47 contaminated site locations, but the table identifying each site was omitted from the Draft EIR. Table 7 A from the Safety Element is attached to the end of this document.

### **3 MINOR CHANGES TO THE DRAFT EIR**

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**Page 243:** The first paragraph on this page is modified as follows:

Approximately ~~1,100~~ 600 facilities manufacture, warehouse or process hazardous materials and/or generate hazardous waste within or close to City boundaries. Seventy-four (74) percent of all hazardous materials incidents reported between 1987-1991 were at fixed facilities in the City. Incidents can occur due to spills, ruptures of pipes, tanks and drums and sudden air releases. These conditions can be caused or exacerbated by fire and/or explosions.

**Page 244:** Figure 38 identifies the locations of 24 major hazardous materials generators/users. The table identifying each of these facilities was omitted from the Draft EIR. Table 7 B from the Safety Element is attached to the end of this document.

**Pages 262-263:** Two paragraphs beginning on page 262 are modified as follows:

~~The City of Santa Fe Springs Fire Department is the likely first responder to a hazardous materials incident. Due to the intensity of industrial uses, the Fire Department employs nine trained hazardous materials specialists. They also maintain a specially equipped emergency response unit and trailer. The Department utilizes the CAMEO Hazardous Materials software during incidents to generate probable air plumes and evacuation distances. All incidents are critiqued to improve future performance.~~

~~The City of Santa Fe Springs has a Memorandum of Understanding with the Los Angeles County Consolidated Fire Protection District. The County also operates a trained and specially equipment Hazardous Materials Emergency Response Team which is able to respond to virtually any chemical emergency. The county team is called in when the capabilities of the Santa Fe Springs Fire Department are exceeded.~~

*The City of Santa Fe Springs Fire Department is the likely first responder to a hazardous materials incident. Twenty two of the Fire Department's personnel have received Hazardous Materials Specialist certification.*

*The City of Santa Fe Springs Fire Department has joined together with the City of Vernon Fire Department to form a Unified Hazardous Materials Response Team. Both cities provide the manpower and equipment necessary to form a single response team. The joint concept allows for the economical formation of the response team.*

*With all members of the team trained to the Haz Mat Specialist level plus the best equipment available, the result is a very dependable team, able to respond to virtually any chemical emergency. The Department utilizes the CAMEO and TOMES Hazardous Materials computer software during incidents to generate probable air plume models, evacuation distances and chemical information.*



### **3      *MINOR CHANGES TO THE DRAFT EIR***

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*The Los Angeles County Fire Department Haz Mat Teams provide a backup to the Santa Fe Springs/Vernon Unified Team. This depth of personnel and redundancy of equipment provide an in-depth approach to hazardous materials mitigation.*

**Page 280:** The first two paragraphs on this page are modified as follows:

The California Environmental Quality Act (CEQA) requires the identification and evaluation of *a* reasonable range of alternatives designed to achieve the project's objectives, while reducing the project's significant impacts (Guidelines § 15126 sub. (d).) Since air quality is the only significant environmental impact after mitigation, this issue should be the primary focus of the alternatives analysis.

This section of the EIR addresses the potential environmental effects of the alternatives to the proposed General Plan. The first alternative is required by CEQA, the No Project Alternative. Two other alternatives were selected to provide a comparison of the environmental effects of different land use patterns and intensities in the General Plan area. Because the City is largely developed ~~ment~~ and infrastructure is well established in the area, there are not large variations among the alternatives available to the City.

**Page 280:** The paragraph in Section 5.1.3 is modified as follows:

#### **5.1.3 Air Quality**

The City of Santa Fe Springs is located in an air basin that is non-attainment for four of six criteria pollutants. Although the amount of additional growth anticipated in Santa Fe Springs is relatively small, the EIR recognizes the emissions growth as significant. This impact would be eliminated under the No Project Alternative, *but the City would remain a non-attainment area under this alternative.*

**Page 281:** The first paragraph on this page is modified as follows:

Under the proposed General Plan, noise would increase along major arterials due to traffic growth from General Plan-related growth and areawide development. Although this impact was not gauged to reach the level of significance, the impact attributed to General Plan-related growth would not occur. Noise increases from areawide development *and commuter "pass through" traffic* would continue regardless.

**Page 281:** The paragraph in Section 5.1.6 is modified as follows:

The City is largely developed and located in a highly urbanized region. As a result, the impacts from additional impervious surfaces would not be significant. The conversion of former oil production lands would not expose large numbers of persons to flooding hazards.



### **3 MINOR CHANGES TO THE DRAFT EIR**

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**Page 281:** The paragraph in Section 5.1.9 is modified as follows:

The No Project Alternative would eliminate the modest residential development allowed under the proposed General Plan. However, the trend toward greater household size would continue and the City's population would continue to grow slightly. Employment growth expected from converting the former oil production lands to urban use would be less likely to occur under this alternative.

**Page 282:** The paragraph in Section 5.1.12 is modified as follows:

The former oil production sites will require clean-up regardless of whether they are redeveloped. The remediation process has some potential to expose workers and the public to hazardous materials. The No Project Alternative would not change this, except that site remediation is less likely to occur if funds from redevelopment are not available to assist in this process. The No Project Alternative would eliminate the introduction of new industrial uses and the potential to generate conflicts with adjacent uses. However, with current regulations and the mitigation measures identified, this impact ~~was~~ is considered significant.

**Page 282:** The paragraph in Section 5.2 is modified as follows:

Under this alternative, the General Plan would ~~remain~~ be modified to contain a greater mixture of land uses. The current Plan maintains the general land use patterns found in the City. Residential uses are largely contained within one region and the central core consists *of* industrial, *and* commercial ~~and~~ lands expected to convert to urban use in the future. This central core area is proposed to contain new business uses. This Mixed-Use Alternative assumes that this area would be designated to permit a greater mixture of land uses, including residential. This land use pattern may have some air quality benefits from reduced trip lengths, but it would also create additional concerns related to land use conflicts. The following sections review the relative impacts of this alternative as compared to the proposed General Plan.

**Page 283:** The paragraph in Section 5.2.4 is modified as follows:

The introduction of residential uses into the urbanized~~ing~~ areas of the City may subject these sensitive uses to high noise volumes from ongoing industrial operations.

**Page 284:** The paragraph in Section 5.2.9 is modified as follows:

This alternative would have a minimal impact on biological resources, *the* same as the proposed General Plan.

### **3     *MINOR CHANGES TO THE DRAFT EIR***

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**Page 284:** The paragraph in Section 5.3.1 is modified as follows:

The proposed General Plan is designed to generate some new development opportunities ~~and~~ lands become available for urban development. While some of the potential land use conflicts might be avoided, this alternative would eliminate that possibility that the Plan would generate economic benefits.

**Page 285:** The paragraph in Section 5.3.7 is modified as follows:

The opportunity *to* improve the visual character of ~~the~~ many *of the* sites through conversion to urban use would be reduced under this alternative.

**Page 285:** The paragraph in Section 5.3.10 is modified as follows:

There are few biological resources in *the* areas that are potential development sites. No significant impacts are expected under either this alternative or the proposed General Plan.

**Page 286:** The paragraph in Section 5.3.12 is modified as follows:

This alternative would likely result in less redevelopment of former oil production facilities. Fewer conflicts might arise between the old and new uses, but the opportunity *to* remediate many of these sites and bring them into productive use would be reduced.

**Page 289:** The third paragraph on this page is modified as follows:

Development of currently vacant land is a significant, irreversible environmental effect as it is not likely that land would revert to its original condition. In turn, developing currently vacant land results in a significant, irreversible environmental effect on biological resources and agricultural land for the same reason. The General Plan calls for the intensification and development of land in the Study Areas. Currently, vacant land represents approximately 54% of all lands within the Study Areas. The proposed General Plan includes policies to protect designated open space areas, as well as the preservation of endangered species. However, the General Plan is premised on development of large areas of currently vacant land.

**Page 290:** The second paragraph on this page is modified as follows:

Under the proposed General Plan, only 269 new dwelling units are expected to be added over the 1990 level of 4,817 dwelling units. Using the current rate of 3.33 persons per household, the resident population would increase by an estimated 896 persons, for a population at buildout of about 16,936 residents, a 6.5% increase. This may be somewhat of an underestimate, since it assumes that the rate of natural increase and persons per household ~~has~~ stabilized and that overcrowding does not increase. There are many new immigrants living in Santa Fe Springs, and

### **3    *MINOR CHANGES TO THE DRAFT EIR***

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the larger than average household size is in part attributed to differences in cultural attitudes about ideal family size. ~~Also, there tends to be less focus on the "nuclear family," and households with multiple generations living under one roof is not uncommon in some populations, particularly in the Latino population.~~ Nevertheless, with limited potential to add new housing in the City, the potential for future increase in resident population is expected to be insignificant. The proposed development under the General Plan is not expected to significantly increase the population in the SELAC Subregion, since only 269 new residential units would be added over the 1990 level. This represents less than 1% of the total projected increase in population for the SELAC Subregion for the year 2010.

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**City of Santa Fe Springs  
General Plan Update**

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**DRAFT  
ENVIRONMENTAL IMPACT REPORT**

Prepared for:

**City of Santa Fe Springs**

Prepared by:

**The Planning Center**

June 22, 1994





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**City of Santa Fe Springs  
General Plan Update**

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**DRAFT  
ENVIRONMENTAL IMPACT REPORT**

Prepared for:

**City of Santa Fe Springs**

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# ***1 EXECUTIVE SUMMARY***

---

This Environmental Impact Report (EIR) evaluates the potential individual and cumulative environmental effects associated with implementation of the policies and programs of the Santa Fe Springs General Plan. Direct/primary effects of the project are evaluated, as well as any potential indirect/secondary impacts that may occur through build-out. The EIR serves as the framework for review of future planning efforts, (e.g. development projects, public works improvements) and identifies where additional environmental analysis may be required.

The EIR provides recommendations, (i.e., mitigation measures), to minimize potentially significant effects, and describes the consequences of unavoidable environmental impacts. Alternative project options have been evaluated to provide a comparative analysis of the potential environmental effects of these alternatives, relative to those associated with the proposed project.

The scope of the EIR was determined through the noticing process. The Environmental Checklist that accompanied the Notice of Preparation (NOP) identified potential impacts resulting from implementation of the proposed General Plan. Comments on the NOP received from responsible, trustee and interested agencies, resulted in refinements to the EIR scope.

The environmental issues addressed in this document include:

- Land Use/General Plan/Zoning
- Transportation
- Air Quality
- Noise
- Geology and Seismic Hazards
- Hydrology/Flooding
- Aesthetics
- Public Services/Utilities
- Population/Housing/Employment
- Biological Resources
- Cultural Resources
- Public Health and Safety

The following mandatory components of an EIR are also addressed:

- The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity.
- Any significant, unavoidable and/or irreversible environmental changes which would be involved in the proposed action should it be implemented.
- The growth-inducing impacts of the proposed project.
- Evaluation of project alternatives including the no-project alternative, and other alternatives that are deemed potentially feasible.



# ***1 EXECUTIVE SUMMARY***

---

## **1.1 Summary of Project Impacts and Mitigation**

Following is a matrix that summarizes the impacts, recommended mitigation measures and net level of impact after mitigation that are identified throughout this EIR. This summary also identifies policies contained in the Santa Fe Springs General Plan that serve as mitigation.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
POTENTIAL CONFLICTS BETWEEN NEW INDUSTRIAL DEVELOPMENT AND ADJACENT RESIDENTIAL AREAS	<p>Land Use Element Policies</p> <p>9.1 Apply the following criteria in encouraging new industries to located in Santa Fe Springs and in providing for the expansion of existing industries:</p> <p>e. Favorable or neutral environmental effects should be encouraged while heavy, noxious, or polluting industries should be discouraged.</p> <p>9.6 Efficient and compatible methods of extracting the remaining petroleum resources of the area should be encouraged, as well as the removal of any unused oil field equipment and unused storage facilities.</p> <p>9.7 The City should monitor and ensure that efficient and environmentally sound techniques are used in abandoning sites, in order to preserve and enhance the environment.</p>	Less than significant
INCREASE IN TRAFFIC VOLUMES	<p>Circulation Element Policies</p> <p>1.1 Development and maintain a circulation system that is based upon and is in balance with the Land Use Element of the General Plan.</p> <p>1.2 Maintain and implement circulation system standards for roadway and intersection classifications, right-of-way width, pavement width, design speed, capacity and associated features such as landscaping buffers and building setback requirements.</p> <p>1.3 Coordinate roadway improvements with applicable regional, state and federal transportation plans and proposals.</p> <p>1.4 On a regular basis, identify, monitor and make recommendations for improvements to roadways and intersections that are approaching, or have approached, unacceptable levels of service or experiencing higher than expected accident rates.</p>	Less than significant

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

## 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	1.6 Limit driveway access on arterial streets to maintain a desired quality of flow.	
	1.7 Design local and collector streets to discourage their use as through routes.	
	1.8 Require that proposals for major new developments include a future traffic impact analysis which identifies measures to mitigate any identified project impacts, and adhere to the City's Congestion Management Plan.	
	2.1 Maintain a proactive and assertive role with appropriate agencies dealing with regional transportation issues affecting the City.	
	2.2 Work with adjacent cities to ensure that the traffic impacts of development projects in these cities do not adversely impact the City of Santa Fe Springs.	
	2.3 Monitor and coordinate with Caltrans freeway work as it affects Santa Fe Springs' roadways and businesses, and require modifications as necessary.	
	2.4 Require that proposals for major new developments include a future traffic impact analysis which adheres to the City's Congestion Management Plan.	
	8.1 Maintain a citywide level of service (LOS) not exceeding LOS "D" for intersections during the peak hours, with the exception of the intersections of the I-605 on/off ramps at Telegraph Road, Valley View Avenue and Alondra Boulevard, Norwalk Boulevard and Washington, and other locations where the City determines an exception is warranted.	
	8.2 Maintain a citywide level of service (LOS) for links not to exceed LOS "C" for Secondary arterials and Local streets, and not to exceed LOS "D" for Major arterials. Exceptions to this are regional facilities such as Telegraph Road, and where intersection capacities are such that higher link volumes can prevail without capacity deficiencies occurring ("augmented capacity" roadways).	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>8.3 Identify and improve roadways and intersections that are approaching, or have approached, unacceptable levels of service.</p> <p>8.4 Ensure that the location, intensity and timing of development is consistent with the provision of adequate transportation infrastructure and standards.</p> <p>8.5 Require new development projects to mitigate off-site traffic impacts to the maximum extent feasible.</p> <p>8.6 Require the driveway access points onto arterial roadways be limited in number and location in order to ensure the smooth and safe flow of vehicle and bicycles.</p> <p>8.7 Require new development to install traffic signals at intersections or arterials which, based on individual study, are shown to satisfy traffic signal warrants.</p> <p>Additional Mitigation Measures Required:</p> <p>4.2-1 Table 9 identifies the specific roadway improvements needed to accomplish the Circulation Element under the two land use alternatives. These improvements shall be implemented as funding allows through appropriate City program (capital improvement programming, development approvals, etc).</p>	
CONFLICTS WITH AT-GRADE RAILROAD CROSSINGS	4.2-2 The City should consider adding these grade separations to the list of improvements identified in Table 9.	Less than significant
TEMPORARY CONSTRUCTION EMISSIONS	4.3-1 All active portions of construction sites, earthen access roads, and material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice a day with complete coverage, preferably in the late morning and after work is done for the day. Where feasible, reclaimed water shall be used.	Less than significant

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.



# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	4.3-2 All clearing, grading, earth moving, or excavation activities shall cease during periods of winds greater than 20 miles per hour average over one hour.	
	4.3-3 All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.	
	4.3-4 The area disturbed by clearing, earth moving, or excavation activities shall be minimized at all times. This can be accomplished by mowing instead of disking for weed control and seeding and watering inactive portions of the construction site until grass growth is evident.	
	4.3-5 Construction site vehicle speed shall be limited to 15 miles per hour.	
	4.3-6 Streets adjacent to the project site shall be swept as needed to remove silt which may have accumulated from construction activities.	
	4.3-7 All internal combustion engine driven equipment shall be properly maintained and well tuned according to the manufacturer's specifications.	
	4.3-8 During the smog season (May through October), the construction period shall be lengthened to minimize the number of vehicles and equipment operating at the same time.	
	4.3-9 Diesel powered or electric equipment shall be utilized in lieu of gasoline powered engines.	
	4.3-10 Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and a flagperson shall be retained to maintain safety adjacent to existing roadways.	
LONG TERM REGIONAL IMPACTS DUE TO PROJECT BUILDOUT	Transportation System/Demand Management Policies	Significant
	3.1 Pursue transportation management strategies that will maximize vehicle occupancy	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

## 1 EXECUTIVE SUMMARY

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Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	and optimize average trip length.	
	3.2 Encourage non-residential development to provide employee incentives to utilize alternatives to conventional automobile travel (i.e., carpools, vanpools, buses, bicycle and walking).	
	3.3 Encourage the implementation of employer TDM requirements included in the South Coast Air Quality Management District's (AQMD) Regulations.	
	3.4 Encourage industry to use flex-time, staggered working hours and other means to lessen commuter traffic.	
	3.5 Encourage the use of multiple occupancy vehicle programs for shopping and other uses to reduce mid-day traffic.	
	3.6 Promote ridesharing through publicity and provision of information to the public.	
	3.7 Minimize pedestrian and vehicular conflicts.	
	3.8 Implement traffic signal coordination on arterial streets to the maximum extent practical, and integrate signal coordination efforts with those of adjacent jurisdictions.	
	3.9 Encourage the development of additional regional public transportation services and support facilities including park-and-ride lots near the I-5 Freeway and the I-605 Freeway.	

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\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	Public Transportation Policies	
	5.1 Coordinate with the MTA to increase transit services and expand services through transit facility improvements.	
	5.2 Encourage new development that is designed in a manner which facilitates provision or expansion of transit service, provides on-site commercial/recreational facilities to discourage midday travel, and provides on-site circulation.	
	5.3 Require proposed developments to include transit facilities, such as park-and-ride sites, bus benches, shelters, pads or turn-outs, where appropriate, in their improvement plans or in proximity to their development.	
	5.4 Encourage developers to work with agencies providing transit service with the objective of maximizing the potential for transit use.	
	5.5 Encourage employers to reduce employee vehicular trips by offering incentives for employees to use public transportation.	
	5.6 Encourage MTA to support the Norwalk/Santa Fe Springs Transportation Center which will provide services for rail and bus utilization, and the construction of park-and-ride facilities for interface with regional freeway and HOV facilities, and the Green Line.	
	5.7 Encourage the provision of safe, attractive and clearly identifiable transit stops throughout the community.	
	5.8 Develop design standards that promote access to transit facilities.	
	5.9 Encourage accessible and efficient public transit for persons with impaired mobility.	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	5.10 Coordinate with Amtrak, MTA, and Metrolink regarding a linkage to commuter rail service for residents and employees, such as shuttle connections to employment centers and residential areas.	
	Trail Systems Policies	
	6.1 Maintain a Bikeway Plan that is consistent with other adopted master plans, to assure that local bicycle routes will be compatible with routes of neighboring jurisdictions.	
	6.2 Maintain existing pedestrian facilities and support the inclusion of pedestrian facilities in new development.	
	6.3 Where appropriate, require proposed developments adjacent to proposed bikeway routes to include bicycle paths or lanes in their street improvement plans to construct the bicycle paths or lanes as a condition of project approval.	
	6.4 Endorse safe, separate, and convenient paths for bicycles and pedestrians so as to encourage these alternate forms of transportation.	
	6.5 Require plans for bicycle and pedestrian facilities to give priority to providing continuity and closing gaps in the bikeway and sidewalk network.	
	6.6 Encourage the placing of showers, changing rooms and public bicycle storage at all new and existing non-residential developments and public places.	
	Additional Mitigation Measures Required	
	4.3-11 The use of energy efficient street lighting and parking lot lighting (low pressure sodium vapor lights) shall be considered throughout the project area to reduce emissions at the power plant.	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.



# ***I EXECUTIVE SUMMARY***

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	4.3-12 Low polluting and high efficiency appliances shall be encouraged for development plans wherever possible.	
	4.3-13 Landscaping shall include water efficient plant species and irrigation to reduce water consumption and provide passive solar benefits.	
	4.3-14 Design guidelines for project developments shall consider innovative solutions to encourage transit ridership and other alternative transportation modes.	
	4.3-15 Design ingress and egress points in new developments to minimize idling vehicle emissions.	
	4.3-16 Encourage use of alternative fuel vehicles in vehicle fleets and design new facilities to set aside space for refueling or electrical recharging of vehicles.	
INCREASED LOCAL CO CONCENTRATIONS	No mitigation measures are required.	Less than significant.
CONFORMITY WITH REGIONAL PLANS	No mitigation measures are required.	Less than significant.
TOXIC AIR CONTAMINANTS	No mitigation measures are required.	Less than significant.
LONG-TERM NOISE GENERATION	Noise Element Policies	Less than significant
	1.1 Encourage the Southern Pacific rail company to minimize the level of noise produced by train movements within the City by using improved vehicle system technology and by modifying their schedule to avoid train movements during noise-sensitive times.	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	1.2 Encourage, where feasible, noise mitigation measures, such as noise barriers and realignments, in the design and construction of new freeway projects in the City of Santa Fe Springs.	
	1.3 Continue to work with the I-5 Consortium to ensure that the widening of the I-5 freeway, including any type of High Occupancy Vehicle Lanes, does not violate any City noise standards and to require the mitigation, to City standards, of any violations.	
	1.4 Investigate the possibility of using the City's Commercial Enforcement Inspector to enforce the State's Vehicle Code noise standards within the City.	
	1.5 Consider noise impacts to residential neighborhoods and other noise sensitive land uses when designating truck routes and major circulation corridors.	
	1.6 Continue to work with the County to identify bus routes that meet public transportation needs while minimizing noise impacts in residential and other noise sensitive areas.	
	1.7 Encourage the use of alternative fuel vehicles in the provision of public transportation that will result in reduced noise impacts.	
	1.8 Develop a program to assist with the retrofitting of existing dwelling units adjacent to the freeways, railroads and arterials where the City's exterior CNEL standard of 65 dB is exceeded.	
	1.9 Continue the inspection of garbage trucks that serve the City to ensure that they are in compliance with City noise standards.	
	<b>Strategy 1</b> Ensure the employment of noise mitigation measures in the design of roadway improvement projects consistent with funding capability. Support efforts by the	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>California Department of Transportation, the County and others to provide for acoustical protection of existing noise sensitive land uses affected by these projects. Consideration of soundwalls will be requested as part of any Caltrans and County roadway project.</p> <p><b>Strategy 2</b> Continue to support the efforts of the I-5 Consortium in its plans to widen the I-5 freeway within the existing freeway's right of way. Through the consortium, require that increased noise caused by any potential widening, both in residential and commercial areas, including an elevated High Occupancy Vehicle lane, be mitigated to City noise standards, at Caltrans' expense.</p> <p><b>Strategy 3</b> Encourage the use of walls, berms and other noise attenuation measures in design of new residential and other noise sensitive land uses that are next to major roads, rail lines, commercial, or industrial areas.</p> <p><b>Strategy 4</b> Provide for evaluation of truck and bus movements and routes in the City to provide effective separation from residential or other noise sensitive land uses.</p> <p><b>Strategy 5</b> Use the Commercial Enforcement Officer from the City's Police Services Center to enforce the State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and local law enforcement agencies.</p> <p><b>Strategy 6</b> The City will encourage the reduction of train noise by requesting that the Southern Pacific rail company use welded track in good repair throughout the City and maintain all street crossings in good condition.</p>	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	Circulation Element Policies	
	1.7 Design local and collector streets to discourage their use as through routes.	
	Additional Mitigation Measures Required	
	4.4-1 Consistent with Strategy 1 and 2, analyze the design and location of all future transportation improvements and recommend noise mitigation in the response to the Notice of Preparations and/or Draft Environmental Impact Reports.	
	4.4-2 Where mitigation of capacity enhancing roadway improvements is not feasible to reduce noise to less than significant levels, promoting alternative transportation modes, such as walking, bicycling and transit within sensitive areas should be encouraged.	
POTENTIAL LAND USE CONFLICTS	Noise Element Policies	Less than significant
	2.1 Adopt planning guidelines that establish acceptable noise standards for various land uses throughout the City of Santa Fe Springs as shown in Table 21.	
	2.2 Apply the State's noise insulation standards to the conversion of existing apartments into condominiums.	
	2.3 Use noise/land use compatibility standards (Table 20) as a guide for future planning and development.	
	2.4 Review proposed projects in terms of compatibility with nearby noise-sensitive land uses with the intent of reducing noise impacts.	
	2.5 Continue to require new commercial/industrial operations located in proximity to existing or proposed noise sensitive areas to incorporate noise mitigation into the project design.	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.



## 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>2.6 Consider replacing a significant noise source with non-noise generating land uses when plans for future use of areas are developed.</p> <p>2.7 Using noise contours and other industry methods, identify areas within the City that are out of compliance with current noise standards and form Noise Study Zones which would qualify for special planning and programs in the mitigation of this problem.</p> <p>2.8 Retrofit any properties acquired by the City that are within a Noise Study Zone to satisfy current noise standards.</p> <p><b>Strategy 7</b> Enforce standards that specify acceptable limits of noise for various land uses throughout the City. Table 4.4E provides criteria used to assess the compatibility of proposed land uses with the noise environment. These criteria are the basis of specific noise standards. These standards, presented in Table 4.4F, define City policy related to land uses and acceptable noise levels.</p> <p><b>Strategy 8</b> Incorporate noise reduction features during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses. New developments will be required to comply with the standards contained in the Noise Element, as well as the City's noise ordinance standards.</p> <p><b>Strategy 9</b> Enforce the provisions of the State of California Noise Insulation Standards (California Administrative Code, Title 24) that specify that the indoor noise levels for multifamily residential living spaces shall not exceed 45 dB CNEL (or Ldn) due to the combined effect of all noise sources. The State requires implementation of this standard when the outdoor noise levels exceed 60 dB CNEL (or Ldn). The noise contour maps can be used to decide when this standard needs to be addressed. The code requires that this standard be applied</p>	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>to all new hotels, apartment houses and dwellings other than detached single family dwellings. The City will also, as a matter of policy, apply this standard to single family dwellings and condominium conversion projects.</p> <p>Land Use Element Policies</p> <p>15.6 Develop and apply methods to reduce the noise and other adverse effects of freeways and railroads adjacent to residential areas (Land Use Policy 15.6).</p> <p>Additional Mitigation Measures Required</p> <p>4.4-3 Ensure that the Zoning Regulation fully integrates the policies adopted in the Noise Element.</p> <p>4.4-4 Require noise studies for development projects within the future 60 CNEL contour identified in Figures 4.4F and 4.4G.</p>	
NON-TRANSPORTATION NOISE INCREASES	<p>Noise Element Policies</p> <p>3.1 Conduct an annual review of Santa Fe Springs' Noise Ordinance, and City policies and regulations affecting noise.</p> <p>3.3 Require City departments to observe state and federal occupational safety and health noise standards.</p> <p>3.4 Continue to require new equipment and vehicles purchased by the City to comply with noise performance standards consistent with available noise reduction technology.</p> <p><b>Strategy 10</b> Review the City's noise ordinance for adequacy and implement changes as needed to address the City's current needs. Continue to apply the Noise Ordinance to</p>	Less than significant

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

***I EXECUTIVE SUMMARY***

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Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	ensure that City residents are not exposed to excessive noise levels from stationary sources. The ordinance protects people from non-transportation related noise sources such as music, machinery and pumps, air conditioners, compressors and truck traffic on private property.	
	<b>Strategy 11</b> Require that any proposed development projects show compliance with the City's Noise Element and Ordinance before approval.	
	<b>Strategy 12</b> Require construction activity to comply with limits established in the City's Noise Ordinance.	
	<b>Strategy 13</b> Designate the Department of Planning and Development to act as the noise enforcement coordinator. This will ensure the continued operation of noise enforcement efforts of the City.	
	<b>Strategy 14</b> Limit delivery hours for businesses with loading areas or docks fronting, siding, bordering or gaining access on driveways adjacent to noise sensitive areas. Exemption from this restriction shall be based solely on attaining full compliance with the nighttime limits of the noise ordinance.	
	<b>Strategy 15</b> Require that the City comply with local, state and federal noise standards. Specifically, require all City departments to comply with the state and federal OSHA noise standards. Any new equipment or vehicle purchases will comply with city, state, and federal noise standards.	

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## ***I EXECUTIVE SUMMARY***

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
CONSTRUCTION NOISE	Noise Element Policies	Less than significant
	10. Continue to minimize the impacts of construction noise on adjacent land uses through limiting the permitted hours of activity.	
	11. Require construction activity to comply with limits established in the City's Noise Ordinance.	
	Additional Mitigation Measures Required	
	4.4-5 All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers identified from contractor maintenance records.	
	4.4-6 To the extent feasible, stationary equipment shall be placed such that emitted noise is directed away from nearby residences, schools, convalescent hospitals and community centers, or to a combination of these receptors.	
INCREASED STORMWATER RUNOFF DUE TO GENERAL PLAN BUILDOUT	4.4-7 Equipment staging areas shall be located to create the greatest feasible distance between noise sources and sensitive receptors during construction activities and shall be identified in this way on construction plans.	Less than significant
	Safety Element Policies	
DEGRADATION OF SURFACE WATER QUALITY	3.5.1 The City will continue its commitment to implementation of the Storm Drain Master Plan and work with the County to do the same.	Less than significant
	3.1 Continue efforts with the Southeast Water Coalition to ensure that water supplies are properly planned, conserved, protected and managed.	
	3.2 Continue to coordinate water programs with other water agencies to ensure the preservation and improvement of water quality and the conservation of water.	

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# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
DAM FAILURE INUNDATION AND STORM FLOODING	3.6 Continue cooperative efforts to assure that contaminated soils are not a threat to ground water.	Less than significant
	Additional Mitigation Measures Required	
	4.5-1 In accordance with federal requirements, NPDES construction activity permits shall be required of all future proposed development projects of five or more acres.	
	Safety Element Policies	
	3.5.1 The City will continue its commitment to implementation of the Storm Drain Master Plan and work with the County to do the same.	
CHANGE IN VISUAL CHARACTER OF SANTA FE SPRINGS	3.5.2 The land use planning process will include the development standards of the National Flood Hazard Program.	Less than significant
	4.7.1 The City is committed to minimizing damage to life and property in the event of a major regional or local disaster.	
	Additional Mitigation Measures Required	
	4.5-2 The City shall require that new developments provide on-site drainage detention to ensure that the capacity of downstream facilities will not be exceeded.	
	Land Use Element Policies	
	9.8 All areas within each Special Study Area should be Master Planned to ensure the best possible land use development.	
	12.2 Develop and encourage the use of design standards for each commercial area to improve its visual identification as a unique commercial area.	

# 1 EXECUTIVE SUMMARY

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Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	18.1 Appropriate ordinances, codes and other regulations should be enforced to maintain and improve the quality of land use.	
	19.1 Promote and encourage open space throughout the City by requiring increased set backs where zoning permits.	
	19.2 In the spirit of low density, managed and reasonable growth, site and develop a golf course.	
	20.1 Provide the community with the opportunities to appreciate the City's significant history through exhibits, the preservation of Heritage Park, and the Clarke Estate.	
	20.3 Operate and promote the Heritage Artwork in Public Places Program as a means of enhancing the urban environment and creating a stimulus for constructive behavior and thought.	
	Open Space and Conservation Element Policies	
	1.1 Whenever and wherever feasible, acquire property for the sole purpose of preserving its intrinsic value as open space.	
	1.3 Monitor the development of the Special Study Areas and other areas of potential open space to ensure that an acceptable amount of open space and recreational facilities are part of every development.	
	2.2 Continue to promote the development of open space and recreational facilities within commercial, industrial and residential developments.	
	2.4 Actively pursue available funding sources for parkland acquisition, development and maintenance.	

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\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

I EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
INCREASED DEMAND FOR FIRE PROTECTION SERVICES	1.2 Continue to enforce the guidelines as set forth in the Master Street Tree Plan Report.	Less than significant
	Safety Element Policies	
	5.5.1 The City will continue to work with relevant regulatory agencies to seek compliance by urban fire sources with current development and operations standards.	
	5.5.2 Continue to use redevelopment as a tool to reduce the number of urban fire hazard structures and systems.	
	5.5.3 The City will seek to review all new development as to the urban fire risks involved and how such developments can remain within established fire flow requirements.	
	5.5.4 The land use planning processes will continue to review the density of structures and population as potential fire risks and consider such in development plan approval.	
	6.7.1 Table 6C (of the Safety Element) sets forth the City's standards by occupancies for fire flows and emergency response vehicle access as to road widths, turning radius and paved access.	
INCREASED DEMAND FOR POLICE PROTECTION SERVICES	6.7.2 The City will continue to provide the finest fire protection and paramedic services at the lowest possible cost commensurate with adequate community protection.	Less than significant
	Safety Element Policies	
	9.5.1 City land use planning policies and decisions will take into consideration the crime and traffic safety impacts of the uses.	

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	10.6.1 The City will continue to provide the finest law enforcement protection services at the lowest cost commensurate with adequate community protection.	
	10.6.2 Focus community and City organizational attention on the "broken window" theory of crime prevention, i.e., prevention of community physical deterioration correlates to prevention of crime.	
	12.5.1 The City will continue to be proactive in the development, administration and enforcement of standards which will protect the community from serious public safety hazards.	
	12.5.2 The highest of priorities for code development and enforcement will be in the areas of structural, hazardous material, seismic, fire safety, crime, traffic, property maintenance, waste stream, and environmental hazards.	
	12.5.3 Particular attention in fire, seismic and structural code enforcement needs to be given to critical facilities as identified in Section XI of the Safety Element.	
	12.5.4 Standards will be reviewed and enforced as to the sufficiency of signage and location numbering systems in support of emergency response vehicles and personnel.	
INCREASED DEMAND ON SCHOOL FACILITIES	4.7-1 The City shall work with the School Districts to ensure that school facility impact fees are collected and shall work with developers and School Districts to establish programs that ensure future school facilities will be available.	Less than significant
INCREASED DEMAND FOR ELECTRICITY	No mitigation measures are required.	Less than significant
INCREASED DEMAND FOR NATURAL GAS	No mitigation measures are required.	Less than significant

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## 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
INCREASED DEMAND FOR TELEPHONE SERVICE	No mitigation measures are required.	Less than significant
INCREASED INCREASE IN WATER CONSUMPTION	Circulation Element Policies	Less than significant
	10.1 Obtain pumping rights to utilize the low cost, high quality groundwater supply to the maximum extent.	
	10.2 Develop the reclaimed water system to serve landscaped areas and industrial uses. Require the use of reclaimed water whenever economically feasible. Establish reclaimed water rates to encourage greater use of this resource.	
	10.3 Maintain a water quality monitoring program to ensure a safe, potable supply to the system.	
	10.4 Maintain a program to replace old leaking water mains and test and replace old water meters as needed.	
	10.5 Update the Water System Master Plan at least every ten years and include the reclaimed water system in the Master Plan.	
	10.6 Implement recommendations contained in the Water System Master Plan when feasible.	
	10.7 Program capital improvements to construct new and replace old wells, pumping plants, reservoirs, etc., to maintain a "Class I" rating.	
INCREASE IN WASTEWATER GENERATION	Circulation Element Policies	Less than significant
	9.1 The cost of installation and maintenance should be borne by the properties benefitted.	

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# ***1 EXECUTIVE SUMMARY***

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>9.2 A program to analyze and identify sewers needing increased capacity should be implemented. This program should determine costs to construct relief sewers and develop financing plans.</p> <p>9.3 Encourage off-peak discharges to the sewer system where economically feasible.</p> <p>9.4 Utilize pipe "lining" material to reduce frictional losses and increase capacity in overloaded sewers when economically feasible.</p> <p>9.5 Trunk sewers should be constructed and maintained by the County Sanitation District.</p> <p>9.6 Maintain an Industrial Waste Inspection and Regulation Program with all costs being paid by industrial waste dischargers.</p>	
INCREASED GENERATION OF SOLID WASTE	The Source Reduction and Recycling Element and the Household Hazardous Waste Element contain programs that represent mitigation for the shortfall in waste disposal capacity.	Less than significant
INCREASED DEMAND FOR PARKS AND RECREATION SERVICES	Open Space Element Policies	Less than significant
	<p>2.1 Ensure that the open space to resident population ratio remains at 9.0 acres per 1,000 residents or higher.</p> <p>2.2 Continue to promote public/private partnerships in the development of open space and recreation facilities in both private and public projects.</p> <p>2.3 Continue to promote the development of open space and recreational facilities within commercial, industrial and residential developments.</p> <p>2.4 Actively pursue available funding sources for parkland acquisition, development and maintenance.</p>	

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# ***I EXECUTIVE SUMMARY***

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	2.5 Continue to foster the joint use of school district and City park facilities.	
	2.6 Expand the Santa Fe Springs Park by developing as additional park area the Southern California Edison right-of-way easement area adjacent to the San Gabriel River. This expansion should consider the creation of a lake or other major water feature at this site.	
	2.7 Continue to conduct and expand the Special Events activities coordinated by the Recreation Division of the Department of Community Services.	
	2.8 Investigate the possibility of forming operating agreements with public utilities and railroad property owners to develop their rights-of-way and easements as trails and other related open space.	
INCREASED DEMAND FOR LIBRARY SERVICES	No mitigation measures are required.	Less than significant
POTENTIAL IMBALANCE BETWEEN AVAILABLE JOBS, PROJECTED POPULATION AND AVAILABLE HOUSING	Housing Element Policies	Less than significant
	2.1 Provide adequate sites to facilitate the development of a range of residential development types in Santa Fe Springs which fulfill regional housing needs, including low density single-family uses, moderate density townhomes, and higher density apartments and condominiums.	
	2.2 Encourage the production of housing in Santa Fe Springs through offering density bonus and other financial incentives, with particular emphasis on housing affordable to lower income households, as well as the needs of the handicapped, the elderly, large families, female-headed households, and the homeless.	

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## 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	2.3 Continue to provide for flexibility in the density and mix of land uses through the Planned Development overlay, and encourage the development of higher density, affordable housing in this zone.	
	2.4 Assist residential developers in identifying and preparing land suitable for new housing development. Maintain an up-to-date inventory of suitable residential sites.	
	2.5 Avoid the concentration of housing for low income families in specific areas of the City, and encourage an appropriate mix of housing types.	
	2.6 Encourage the development of residential units which are accessible to handicapped persons or are adaptable for conversion to residential use by handicapped persons.	
	2.7 Locate higher density residential development in close proximity to community commercial facilities, public transportation, services and recreation. Such housing should be designed in accordance with planned development regulations to ensure compatibility with surrounding developments.	
	2.8 Coordinate with social service providers to address the needs of the City's homeless population. Continue to encourage the development of transitional and emergency housing in areas with a Planned Development (PD) overlay through flexibility in development standards.	
	2.9 Periodically review the Land Use Element to determine if, in light of changing conditions, there are additional areas which could be appropriately used for housing.	
	2.10 Continue to offer neighborhood housing counseling services through the Santa Fe Springs Center for Social Services on matters such as review of leases, fair housing, and landlord-tenant disputes.	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.



# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>3.1 Assist in the development of affordable housing ownership for Moderate, and where feasible, Low income residents.</p> <p>3.2 To the extent funding is available, provide favorable home purchasing options to low-and moderate-income households, such as interest rate write-downs, down payment assistance, mortgage credits, and mortgage revenue bond financing.</p> <p>3.3 Encourage alternative forms of home ownership, such as shared equity ownership and limited equity cooperatives.</p>	
LOSS OF WILDLIFE HABITAT AND ASSOCIATED PLANT AND ANIMAL SPECIES WOULD OCCUR WITHIN THE STUDY AREA	<p>Conservation Element Policies</p> <p>1.1 Continue to develop new and expand existing programs that increase the public's interest, awareness and participation in environmental and conservation issues.</p> <p>1.2 Continue to enforce the guidelines as set forth in the Master Street Tree Plan Report.</p> <p>Additional Mitigation Measures Required</p> <p>4.9-1 Development proposals within the vacant areas of the 227-acre Special Study Area I, the 91-acre Special Study Area 2, and the 261-acre Golden West Refinery shall include biological assessments.</p>	Less than significant
LOSS OF RIPARIAN HABITATS	<p>4.9-2 Prior to any impact on riparian vegetation or blue-line streams designated on the USGS 7.5 minute topographic map, the Department of Fish and Game will be consulted to determine if a 1601/1603 permit will be required and appropriate actions will be taken to comply with conditions as necessary.</p>	Less than significant

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

## 1 EXECUTIVE SUMMARY

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Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
POTENTIAL FOR DAMAGE OR LOSS OF HISTORIC BUILDINGS AND SITES DUE TO INCREASED DEVELOPMENT	Land Use Element Policies	Less than significant
	20.1 Provide the community with the opportunities to appreciate the City's significant history through historical exhibits, the preservation of Heritage Park, and the Clarke Estate.	
	20.2 Administer historical, cultural and recreational programs within the community and provide opportunities for family oriented events.	
	20.3 Operate and promote the Heritage Artwork in Public Places Program as a means of enhancing the urban environment and creating a stimulus for constructive behavior and thought.	
	20.4 Provide visual and performing arts opportunities for young people to the extent allowable through the Heritage Art Fund in order to help them actualize a full range of potential skills and interests.	
	Open Space/Conservation Element Policies	
	4.1 Ensure that any future additions to the [Heritage Artwork in Pubic Places] program are appropriate, of superior quality, placed in unrestrictive settings, and highly selective.	
	4.2 Expand on the children's educational programs that highlight the visual and performing arts.	
	4.3 Consider the development of a multicultural museum and center.	
	Additional Mitigation Measures Required	

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\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

## 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
POTENTIAL FOR DAMAGE TO SUBSURFACE OR UNKNOWN HISTORIC OR PREHISTORIC RESOURCES	4.10-1 Prior to development, buildings or structures in excess of 45 years of age should be evaluated against criteria for inclusion in the National Register of Historic Places.	
	4.10-2 Projects should be reviewed by the Archaeological Information Center during the Initial Study Phase of the planning process so that the potential for yielding cultural resources can be evaluated and recommendations for treatment can be made for the proposed area of development.	
	4.10-3 Properties listed in the Directory of Properties in the Historic Property Data File should be protected from damage or destruction.	
	4.10-4 For any project with a potential impact, a records search shall be conducted by a qualified archaeologist through the Archaeological Information Center. This office is authorized by the State Historic Preservation Officer to make recommendations regarding the degree of evaluation to be required. Adequate evaluation ranges from a halt-word condition being applied to the permit to evaluation of resource significance through test excavations. The Information Center will provide project specific information of previous surveys and of recorded sites within or immediately adjacent to a project area.	Less than significant
POTENTIAL FOR ENVIRONMENTAL CONTAMINATION DUE TO INCREASED INDUSTRIAL USES	7.5.1 The planning process will be used to balance the interests of economic development and the hazard exposures associated with chemical and hazardous material land uses.	Less than significant
	7.5.2 Continue to monitor the City's performance in meeting the waste stream goals contained in the City's Hazardous Waste Management Plan.	
	7.5.3 Assure compliance, through inspection, of all requirements regarding the posting of permits, placards and disclosure statements related to the storage, use and transportation of hazardous materials.	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
PUBLIC SAFETY HAZARDS DUE TO EXPOSURE TO HAZARDOUS OCCUPANCIES AND CONTAMINATED SITES	Refer to Policies 7.5.1 to 7.5.3 above	Less than significant
	Additional Mitigation Measures Required	
	4.11-1 The City of Santa Fe Springs shall review all development applications for potential land use conflicts related to hazardous materials.	
	4.11-2 The City of Santa Fe Springs and school districts shall not approve any school or daycare center within a 1/4-mile radius of the storage of hazardous materials without requiring the performance of a health risk assessment (Public Resources Code Section 21151).	
PROXIMITY OF INDUSTRIAL USES TO SENSITIVE RECEPTORS	4.11-3 The City of Santa Fe Springs shall maintain on file a current list, developed by the Los Angeles County Environmental Health Department, of all hazardous waste sites and deed-restricted properties and shall not approve any application for sites on the list without consulting with the Los Angeles County Environmental Health Department and the California Environmental Protection Agency.	Less than significant
	Refer to Policies 7.5.1 to 7.5.3 above	
	Additional Mitigation Measures Required	
	4.11-4 During the environmental review of development projects, where warranted, the City of Santa Fe Springs shall contact the South Coast Air Quality Management District to identify facilities within the project vicinity that emit toxic air contaminants. The City shall notify the SCAQMD of the proposed project and shall ask for a determination that either:	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.



# ***1 EXECUTIVE SUMMARY***

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<ul style="list-style-type: none"> <li>Facilities exist within the project vicinity that, based on a Health Risk Assessment, are known to emit toxic air contaminants resulting in a cancer risk of greater than one in one million or ten in one million; or</li> <li>Facilities exist within the project vicinity that emit toxic air contaminants, but were not required to prepare a health risk assessment due to the lack of proximity of receptors; or</li> <li>No facilities exist within the project vicinity that emit toxic air contaminants.</li> </ul> <p>The City of Santa Fe Springs shall not approve residential uses and other sensitive receptors within zones of cancer risk identified by a Health Risk Assessment of greater than ten in one million. If facilities exist within the project vicinity that were not required to prepare a Health Risk Assessment due to the lack of proximity of receptors, the City shall discuss the proposed project with the SCAQMD to determine the potential for health impacts on the new development.</p>	
4.11-5	The City of Santa Fe Springs shall require a conditional use permit for any project that handles acutely hazardous materials and that the Los Angeles County Environmental Health Department has determined must prepare a RMPP. The RMPP shall be submitted to the City as part of a complete application.	
4.11-6	The City of Santa Fe Springs and all school districts shall not approve the siting of new schools within a 1/4-mile radius of the storage and handling of hazardous materials unless it has been shown that no significant health risk exists. The City of Santa Fe Springs shall not approve any new industrial or commercial use within 1/4-mile of schools, daycare facilities, convalescent homes and medical facilities unless it has been shown that no significant health risk exists. The City and school districts shall utilize the standards set by the South Coast Air Quality Management District, Cal-EPA Department of Toxic Substances Control or Air Resources Board at the time of project approval. The current standard of	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>significant cancer risk shall be one in one million or ten in one million if Best Available Control Technology is utilized. The current standard of significant non-cancer health risk is a hazard index of .5.</p> <p>4.11-7 During the review of all projects, the City of Santa Fe Springs shall consult with or review data provided by the Los Angeles County Environmental Health Department, Regional Water Quality Control Board, Department of Toxic Substances Control and Integrated Solid Waste Management Agency to determine if any known contamination exists on the proposed site. If contamination exists, the City shall require that the site be remediated prior to the issuance of any building or grading permits.</p> <p>4.11-8 During the site review process for industrial projects, the City of Santa Fe Springs shall identify any sensitive environmental receptors in the project vicinity for groundwater contamination, such as drinking water wells, pipelines, aqueducts, high groundwater, recharge areas, or known continuity between shallow and deep aquifers. If these conditions exist, additional mitigation may be needed, such as groundwater monitoring wells.</p>	
INCREASED POTENTIAL FOR ACCIDENTAL RELEASES DUE TO TRUCKING ACCIDENTS	<p>Safety Element Policies</p> <p>8.6.1 Within reasonable resource expenditures, the City is committed to providing sufficient emergency response capabilities to minimize the threats to personal injury, loss of life and property due to hazmat incidents.</p> <p>Additional Mitigation Measures Required</p> <p>4.11-9 The City of Santa Fe Springs shall identify high accident potential streets and intersections and shall establish recommended transportation routes that will avoid these areas, wherever possible (see Figures 45 and 46).</p>	Less than significant

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

I EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
INCREASED POTENTIAL FOR HUMAN EXPOSURE AND PROPERTY DAMAGE FROM RAILCAR DERAILMENTS	4.11-10 The City of Santa Fe Springs Fire Department shall update the Multi-Hazardous Functional Plan as required to respond as quickly as possible.	Less than significant
	4.11-11 The City of Santa Fe Springs shall identify any high-accident risk areas within the proposed circulation system. The City shall implement feasible mitigation measures to reduce the potential for accidents, and shall work with the California Department of Transportation (Caltrans), where applicable. When considering the development of sensitive receptors, the City shall consider the proximity to designated explosives routes (Section 1150 of the California Code of Regulations).	
	4.11-12 The City of Santa Fe Springs shall encourage the use of rail transport over truck transport of hazardous materials.	
	4.11-13 The City of Santa Fe Springs Fire Department shall obtain a list from the railroad, pursuant to PUC General Order 161, of all hazardous materials either transported or stored by the railroads within the Study Area boundaries. The Fire Department shall revise the Area Plan and the Multi-Hazard Functional Plan as necessary to provide for the safest possible response.	
STRUCTURAL DAMAGE RESULTING IN IMPACTS TO HUMAN HEALTH AND SAFETY DUE TO EARTHQUAKES	4.11-14 The Fire Department shall provide this information to the Los Angeles County Hazardous Material Incident Response Team.	Less than significant
	Safety Element Policies	
	2.5.1 Soils analysis and seismic review should be a part of the planning process for large development projects or where a "critical facility," as defined in Section XI of the Safety Element, is involved.	

# 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	<p>2.5.2 The City shall continue to adopt by reference the seismic standards of the Uniform Building Code, however, as new seismic safety technologies emerge the City should be proactive in amending its standards.</p> <p>Additional Mitigation Measures Required</p> <p>4.11-15 Prior to permit approval for new structures, the City shall require all applicants to retain a geotechnical engineer to review any previously prepared site-specific geotechnical or geologic report. If no geotechnical report was prepared previously, additional geotechnical investigation may be required. A geotechnical report shall be prepared that identifies the site-specific seismic parameters, such as potential for strong ground motion/groundshaking associated with the maximum credible earthquake. This report shall also include a site-specific determination of liquefaction potential and susceptibility to earthquake-induced ground settlement hazards. The geotechnical report shall also provide a determination as to whether the existing facility could withstand the maximum credible earthquake event.</p> <p>4.11-16 The City shall require that all emergency plans, including Business Plans, Area Plan, Multi-Hazardous Functional Plan, etc., shall include contingency plans for hazardous materials release during earthquake events, based on the identified seismic parameters, and potential for groundshaking during the maximum credible earthquake which could impact the facility. The emergency contingency plan should include identification of the chain of command for implementation of the emergency contingency plan in the event of injury to key staff. In addition, all Business Plans and Risk Management and Prevention Plans shall include a requirement that all underground storage tanks and all storage areas should be inspected for rupture and leakage after earthquakes.</p>	
POTENTIAL FOR PIPELINE TRANSPORTATION ACCIDENTS	<p>Safety Element Policies</p> <p>5.5.1 The City will continue to work with relevant regulatory agencies to seek</p>	Less than significant

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.



# ***1 EXECUTIVE SUMMARY***

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	compliance by urban fire sources with current development and operations standards.	
	5.5.2 Continue to use redevelopment as a tool to reduce the number of urban fire hazard structures and systems.	
	5.5.3 The City will seek to review all new development as to the urban fire risks involved and how such can be minimized and as to how such developments can remain within the established fire flow requirements.	
	5.5.4 The land use planning processes will continue to review the density of structures and population as potential fire risks and consider such in development plan approval.	
	Additional Mitigation Measures Required	
	4.11-17 Prior to the tentative map approval, the City of Santa Fe Springs shall contact the State Fire Marshall's Office to identify the locations of any pipelines carrying hazardous materials. The City shall approve the tentative map only if:	
	<ul style="list-style-type: none"> <li>• The pipeline right-of-way has been established and shown on the map; and,</li> <li>• A condition is included that prohibits the construction of structures and the planting of large trees within the pipeline right-of-way.</li> </ul>	
URBAN DEVELOPMENT OVER OIL AND GAS FIELDS	Refer to Policies 5.5.1 to 5.5.4 above	Less than significant
	Additional Mitigation Measures Required	
	4.11-18 Prior to recording parcel or subdivision map, all oil wells must be located and shown on the tentative map. All wells must meet the current standards of the	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

## 1 EXECUTIVE SUMMARY

Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
	Division of Oil and Gas (DOG). The cost of reabandonment is the responsibility of the property upon which the structure is to be located.	
	4.11-19 Under Section 3208.1 of the Public Resources Code, the reabandonment responsibilities of the owner/developer of a property upon which a structure will be located extends no further than the property line boundaries. However, if a well requiring reabandonment is on an adjacent property and near the common boundary line, the structure shall be set back sufficiently to allow future access to the well.	
	4.11-20 If any unrecorded wells are uncovered or abandoned wells are damaged during excavation or grading, remedial operations may be required. If such damage occurs, the project proponent shall perform remedial operations, as directed by the DOG.	
	4.11-21 Where practical, structures not to be built over a well. If construction over an abandoned well is unavoidable, an adequate gas venting system shall be placed over the well, as approved by the DOG and the City.	
	4.11-22 Access to all idle and producing wells shall be maintained, as required by the DOG, for mobile rigs and well workover equipment. The roads for well workover equipment shall have a minimum 12-foot width clearance, and shall be designed for heavyweight use. The wells should be provide with safety shut down devices.	
	4.11-23 Written approval is required from the DOG prior to drilling, reworking, injecting into, abandoning or reabandoning any well. For new wells and the altering of existing wells, the proposal shall include the following: 1) protecting all subsurface hydrocarbons and fresh waters; 2) protection of the environment; 3) adequate blowout prevention equipment; 4) utilizing approved drilling and cementing techniques; and, 5) adequate oil spill contingency plans.	

\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

## ***1 EXECUTIVE SUMMARY***

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Environmental Impacts	Mitigation Measures*	Level of Significance After Mitigation
4.11-24 The City of Santa Fe Springs shall not issue any building permit for land within the former oil field areas unless all onsite wells have been inspected by the DOG and all known site contamination is remediated to acceptable standards.		

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\*Policy numbers refer to General Plan Elements; Mitigation Measure numbers refer to EIR sections.

## **2 INTRODUCTION**

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### **2.1 Purpose**

The California Environmental Quality Act requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority. The Environmental Impact Report (EIR) is intended to provide decision-makers and the public with information concerning the environmental effects of a proposed project and to indicate possible ways to reduce or avoid the possible environmental damage through mitigation measures or alternatives. The EIR must also disclose significant environmental impacts that cannot be avoided; growth-inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present and reasonably anticipated future projects.

In addition, the EIR documents background information for the General Plan. Each jurisdiction must prepare supporting environmental documentation for policies contained in the General Plan. This information will be used to evaluate the environmental effects of the proposed General Plan.

### **2.2 Authority**

This Draft Environmental Impact Report (EIR) has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et.seq.) and the State CEQA Guidelines (14 California Administrative Code Section 1500 et.seq.) for the proposed Santa Fe Springs General Plan herein referred to as the "project".

### **2.3 Approach**

State Law specifies the basic contents of the General Plan, however, it permits each jurisdiction to use any format deemed appropriate or convenient. General Plans are traditionally organized into a collection of required and optional elements, or subject categories. These elements contain a policy component, and supporting documentation. The City intends to use the EIR primarily as a policy document and has elected to include supporting environmental documentation for the General Plan in the EIR.

#### **2.3.1 General Plan**

The Santa Fe Springs General Plan functions as a guide for local government decision-makers, citizens and the development community with respect to land use and development. The General Plan must address the following seven elements or "chapters": land use, housing, circulation, the conservation of natural resources, the preservation of open space, the noise environment, and the protection of public safety. Although inclusion of each of the seven elements in a City's General Plan is mandatory, these topic areas may be combined at the discretion of the City so long as it complies with all requirements governing content and adoption procedures. The City of Santa Fe Springs has elected to address the following optional elements: Environmental Element,



## **2 INTRODUCTION**

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which includes Household Hazardous Waste Element, Source Reduction and Recycling Element and Non-Disposal Facilities Element.

The State requires local jurisdictions to adopt General Plans based on the belief that the future growth of California is largely determined by local land use decisions and related actions. The General Plan addresses land within a City's boundaries as well as any area outside the boundaries, which is felt to bear relation to a city's planning. The General Plan Study Area consists of the City and the Sphere of Influence.

### **2.3.2 Program Environmental Impact Report**

The Santa Fe Springs General Plan EIR is intended to serve as a "program level" EIR. This approach is appropriate for evaluating "a series of actions that can be characterized as one large project and can be related either (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with the issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways" (CEQA Guidelines, Section 15168).

A Program EIR has the following advantages: "it provides an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action; it ensures consideration of cumulative impacts that might be slighted in a case-by-case analysis; it avoids duplicative reconsideration of basic policy considerations; it allows the lead agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems of cumulative impacts; and, it allows reduction in paperwork" (Guidelines Section 15168).

Subsequent development projects proposed within the City must be reviewed in the context of this Program EIR to determine if additional environmental documentation is required. If the subsequent project would have environmental effects not addressed in the Program EIR, additional environmental review would be required. Where no new effects and no new mitigation measures are involved, the subsequent project can be approved without additional environmental documentation. Where an EIR is required for a subsequent project, the EIR should implement the applicable mitigation measures developed in the Program EIR, and focus its analysis on site-specific issues not previously addressed.

## **2.4 Intended Uses of this EIR**

The City of Santa Fe Springs, as the Lead Agency for this project, will use this EIR in consideration of the proposed General Plan. This document will provide environmental

## 2 INTRODUCTION

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information for several other agencies affected by the project, or which are likely to have an interest in the project. Various State and Federal agencies exercise control over certain aspects of the project area. The various public, private and political agencies and jurisdictions with a particular interest in the proposed project include, but are not limited to the following:

### A. Federal Agencies

Fish and Wildlife Service (FWS) - Responsible for conserving and protecting wild birds, endangered species and their habitat.

Federal Highway Administration (FHWA) - Responsible for approving changes to the interstate freeway system, including the Santa Ana Freeway (I-5) and the San Gabriel River Freeway (I-605) in this area.

Environmental Protection Agency (EPA) - Responsible for administration of the Superfund program.

### B. State Agencies

California Department of Fish and Game (CDFG) - Responsible for the protection, conservation, propagation and enhancement of California's wildlife resources. This department enforces laws and regulations, and issues licenses relative to and cooperates with local agencies in developing projects. This agency will act as a Trustee.

California Regional Water Quality Control Board (CRWQCB) - Responsible for evaluating appropriate uses of water and for issuing National Pollution Discharge Elimination System (NPDES) permits and waste discharge requirements.

California Reclamation Board (CRB) - Responsible for delineation of flooding and regulation of encroachments into designated floodways.

California Department of Transportation (Caltrans) - Responsible for approval of roadway improvements along state highways, including Interstates 5 and 605.

California Environmental Protection Agency - This agency is the primary state agency concerned with degradation of the environment and how it affects human health. It is responsible for the examination and prevention of pollution of sources of public water supplies; establishment of ambient standards of air quality; monitoring of environmental pollution, regulation of the quality of water supplies and sewage disposal systems; regulation of hazardous waste; regulation of pesticides; regulation and control of radioactive materials; and providing certain laboratory support to other state agencies.

## 2 INTRODUCTION

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California Department of Toxic Substances Control - This Cal-EPA agency is the primary state agency that regulates all matters related to hazardous waste. It is responsible for the cleanup of hazardous waste sites and permitting, surveillance and enforcement of hazardous waste facilities.

State Air Resources Board (CARB) - This Cal-EPA agency is responsible for ensuring implementation of the California Clean Air Act, responding to the Federal Clean Air Act and for regulating emissions from consumer products and motor vehicles.

### C. Local Agencies

City of Santa Fe Springs - Responsible for land use control, and the provision of urban services on and to the project site. The City will act as the Lead Agency for the proposed project.

Los Angeles County - Will serve as Responsible Agency for approval of various public works facilities.

South Coast Air Quality Management District (SCAQMD) - Has the responsibility for the implementation of the California Clean Air Act. This agency's authority includes Los Angeles and Orange Counties and the western portion of Riverside County.

Southern California Association of Governments (SCAG) - Stimulates intergovernmental cooperation in planning and development activities, and assures better coordination of federally assisted projects. Reviews applications of local and regional agencies for federal grants related to more than 100 programs. Responsible for preparing components of the California Regional Transportation Plan. Programs range from open space planning, waste control and water basin studies to aviation, housing and research in economics and demography.

Adjacent Cities - The Cities of Norwalk, Pico Rivera, Downey, Whittier, Cerritos and La Mirada are located adjacent to Santa Fe Springs and will be affected by the City's General Plan. These cities may also be Responsible Agencies for public facilities proposed in adjoining areas.

## 2.5 Document Organization

Sections 1.0 and 2.0 of this document provide an overview of the proposed Santa Fe Springs General Plan and the scope, use and approach of this EIR.

Section 3.0 includes a detailed description of the General Plan. This Chapter describes the environmental setting and defines the project. Assumptions used during the preparation of this document are also identified.



## 2 *INTRODUCTION*

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Section 4.0 evaluates the impacts associated with the proposed General Plan goals, policies and programs. This section is organized by issue area and each area includes a description of: the environmental setting relative to that issue; environmental effects of the proposed project; mitigation measures; and determinance of significance after mitigation. Mitigation measures that are incorporated into the General Plan in the form of policies and programs are described in the environmental effect subsection and additional measures which may be required to mitigate project impacts are recommended.

Impacts and mitigation measures are generally organized under the issue topics. However, an impact or mitigation measure's location within the document should not restrict it from being considered under another issue topic, even though omitted from that section. Many of the impacts relating to a General Plan, such as Santa Fe Springs' are multi-faceted. Similarly, the goals and policies and actions which serve as mitigation measures and additional mitigations recommended, may accomplish several objectives and mitigate more than one impact. It is important that decision-makers be cognizant of this fact in their consideration and use of this document. If mitigation measures are altered, the affect that would have on other issues should be evaluated.

Section 5.0 is a discussion of the alternatives to the proposed project and related impacts and evaluation. An environmentally superior option is discussed in this section.

Sections 6.0 through 9.0 address the remainder of CEQA mandated issue areas (e.g., significant unavoidable impacts, short-term uses versus long-term productivity, irreversible environmental change, and growth inducing impacts).

Chapter 10.0 lists the organizations and individuals contacted during the preparation of the EIR.





### **3 PROJECT DESCRIPTION**

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#### **3.1 Environmental Setting**

The City of Santa Fe Springs is located approximately 13 miles southeast of downtown Los Angeles and 18 miles north of the City of Long Beach (see Figure 1). Neighboring cities include Whittier, La Mirada, Cerritos, Norwalk, Downey and Pico Rivera. The City lies at the convergence of two major transportation routes, Interstates 5 and 605, and is traversed by the Southern Pacific and Santa Fe rail corridors.

The City of Santa Fe Springs is currently updating six of the seven required elements of the General Plan, including Open Space, Conservation, Land Use, Circulation and Noise. The Housing Element was recently revised and will likely require only adjustments to satisfy new legislative requirements. The City has also elected to add an Environmental Element, which covers hazardous waste management, source reduction and recycling, household hazardous waste and air quality management.

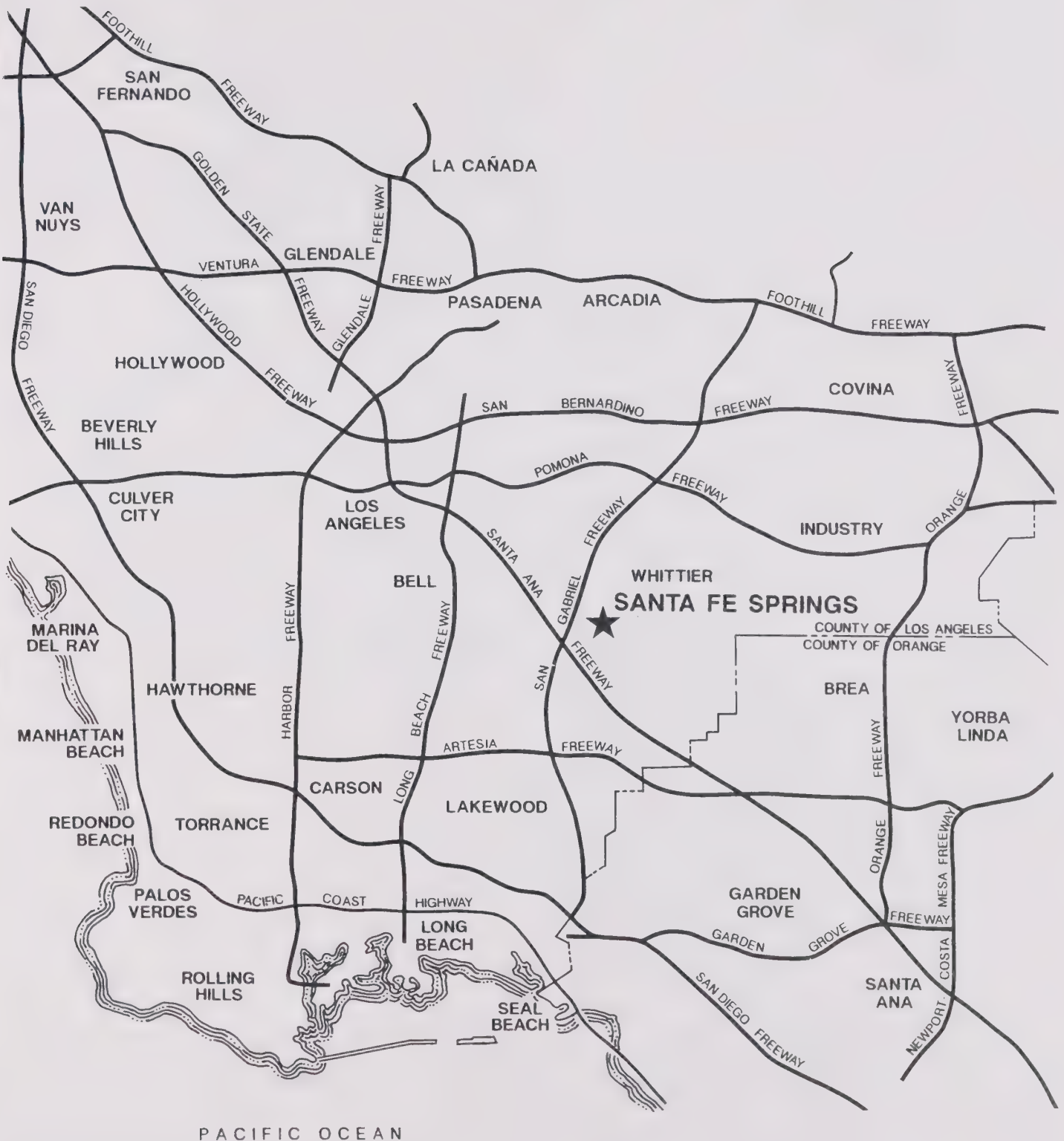
The proposed updated General Plan would redesignate 579 acres of land currently designated as Heavy Industrial to Mixed Industrial. The 579 acres are divided into three special study areas (see Figure 2 and Table 1). Special Study Area I, including 226.93 acres, is currently an undeveloped oil field property and former oil refinery, north of Telegraph Road and east of Norwalk Boulevard, and the Townsite on the south side of Telegraph Road. Special Study Area II, including 92.21 acres, is currently the Powerline Oil Refinery and adjacent property. This site includes a former landfill. Special Study Area III, including 261.23 acres, is currently the Golden West Refinery and adjacent property to the west and the Amtrak Station at Imperial Highway and Bloomfield Avenue. The Mixed Industrial designation could include commercial, industrial, and open space uses and would be implemented by the zoning "Limited Manufacturing - Planned Development (ML-PD)". All three special study areas are contaminated and are in varying stages of site cleanup, under the direction of the Regional Water Quality Control Board, Los Angeles Region.

The proposed Land Use Plan is shown in Figure 3.

#### **3.2 Statement of Objectives**

The City of Santa Fe Springs has established objectives to be met both by the proposed General Plan Update itself and by this EIR. The objectives for the Santa Fe Springs General Plan Update are presented here so that the environmental analysis will consider and mitigate potential impacts in a manner consistent with the City's objectives. The General Plan objectives must also be considered in the evaluation of alternatives presented in this EIR.





## REGIONAL LOCATION

The Planning Center

Santa Fe Springs General Plan Update Environmental Impact Report  
Figure 1

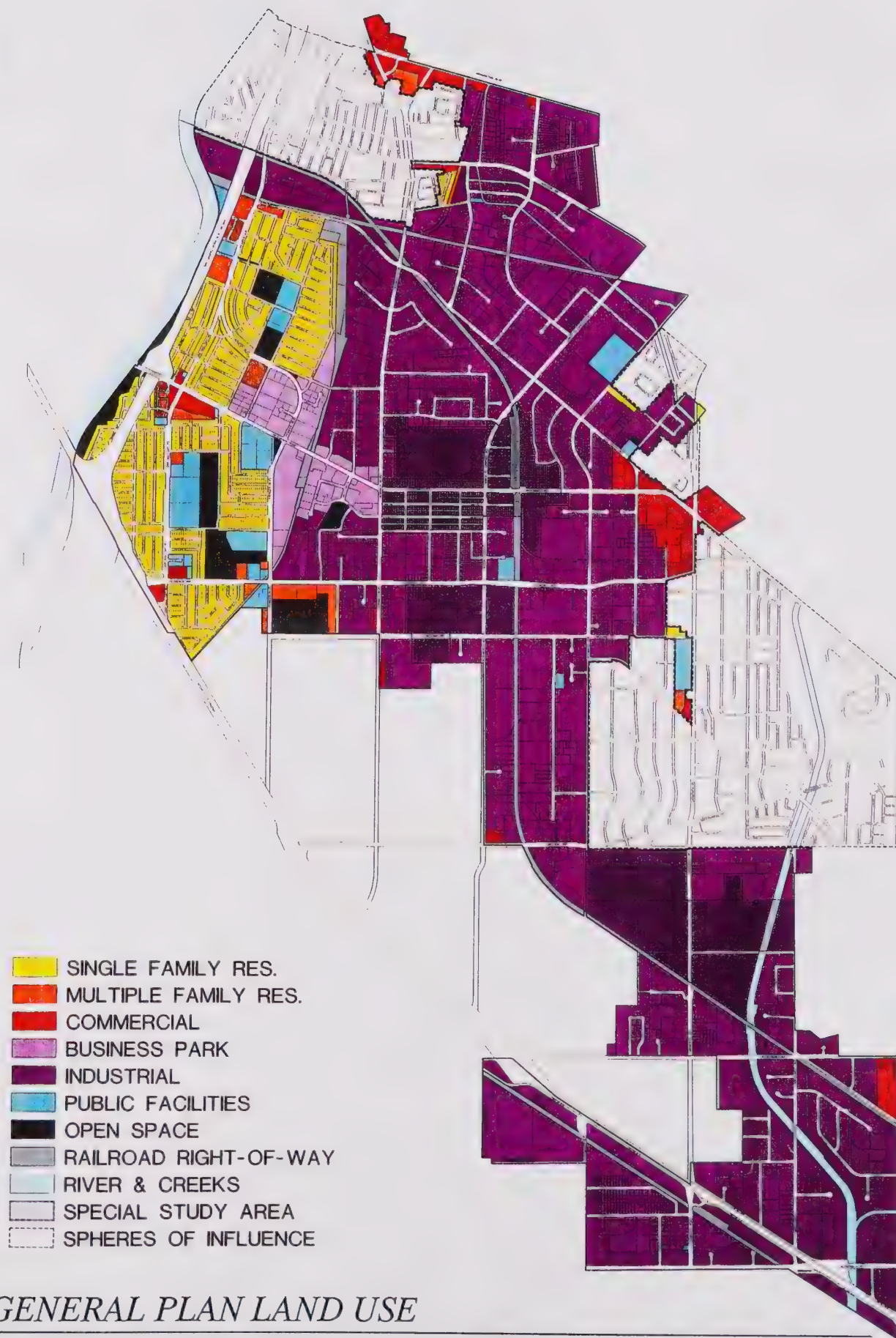












## GENERAL PLAN LAND USE





### 3 PROJECT DESCRIPTION

**TABLE 1  
SANTA FE SPRINGS GENERAL PLAN LAND USE SUMMARY**

Land Use	Density/ Intensity	Existing Gross Acres	Existing DU/Sq. Ft. <sup>2</sup>	Existing Population <sup>1</sup>	Proposed Gross Acres	Proposed DU/Sq. Ft. <sup>2</sup>	Projected Population <sup>1</sup>	Acres of Change
<b>RESIDENTIAL</b>								
Single Family	8.7	404.99	3,523	11,731	404.99	3,523	11,731	0
Multi-Family Condominium/ Townhouse	21.8	12.66	276	919	12.66	276	919	0
Multi-Family Apartment	21.8	50.84	1,108	3,690	50.84	1,108	3,690	0
Multi-Family Mobile Home	21.8	8.20	179	596	8.20	179	596	0
<b>Subtotal</b>		<b>476.69</b>	<b>5,086</b>	<b>16,936</b>	<b>476.69</b>	<b>5,086</b>	<b>16,936</b>	<b>0</b>
<b>NON-RESIDENTIAL</b>								
General Commercial	50%	34.79	757,726	n/a	34.79	757,726	n/a	0
Commercial Center	50%	112.35	2,446,983	n/a	112.35	2,446,983	n/a	0
Freeway Commercial	50%	89.73	1,954,319	n/a	89.73	1,954,319	n/a	0
Mixed Use Industrial	50%	103.85	2,261,853	n/a	683.22	14,880,531	n/a	579.37
Light Industrial	50%	188.81	4,112,281	n/a	188.81	4,112,282	n/a	0
Heavy Industrial <sup>3</sup>	50%	3,441.34	74,952,385	n/a	2,861.97	62,333,706	n/a	579.37
Civic Center	50%	12.80	278,784	n/a	12.80	278,784	n/a	0
Fire Stations	50%	3.01	65,558	n/a	3.01	65,558	n/a	0
Churches	50%	10.82	235,660	n/a	10.82	235,660	n/a	0
Community and Cultural Sites	50%	22.20	483,516	n/a	22.20	483,516	n/a	0
Cemeteries	n/a	21.48	935,669	n/a	21.48	935,669	n/a	0
Parks/Open Space	n/a	111.18	4,843,001	n/a	111.18	4,843,001	n/a	0
Schools	50%	121.49	2,646,052	n/a	121.49	2,646,052	n/a	0
<b>Subtotal</b>		<b>4,273.85</b>	<b>95,973,787</b>	<b>n/a</b>	<b>4,273.85</b>	<b>95,973,787</b>	<b>n/a</b>	<b>0</b>
<b>TOTAL</b>		<b>4,750.54</b>		<b>n/a</b>	<b>4,750.54</b>		<b>n/a</b>	

- 1 Population is based on 3.33 persons per household, 1990 Census Data
2. Square footage is based on an average of 50% lot coverage.
3. 579.37 acres of heavy industrial is currently vacant oil fields.

### **3 PROJECT DESCRIPTION**

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The objectives of the General Plan Update are as follows:

- To fulfill the requirements of Sections 65300 et seq. of the Government Code.
- To guide the physical development of Santa Fe Springs into the next century.
- To provide a high quality of life for all people residing, working or frequenting the City. (Further discussion of subsidiary goals of the City are discussed below in Section 3.4.1.)

The City's objectives for the EIR are as follows:

- To conform with Section 21000 et seq. of CEQA which requires that environmental impacts be addressed and mitigated.
- To provide a basis for informed decisions when considering actions affecting Santa Fe Springs.
- To provide a legally defensible foundation upon which decisions may be made.

#### **3.3 Assumptions and Considerations**

The analysis contained in the Draft EIR is based on certain assumptions regarding the implementation of this General Plan and the resulting form of the City of Santa Fe Springs. Unless otherwise specified in impact analysis sections, the following assumptions are used throughout the environmental analysis:

- Household size is assumed to average 3.33 people per dwelling unit, based on the 1990 Census.
- Buildout of the proposed General Plan would be assumed to result in the following, although actual development levels would depend on approved site plans for future projects:

Housing Units	5,085
Jobs	7,148
Population	16,936

#### **3.4 Project Characteristics**

The following sections describe the proposed General Plan for the City of Santa Fe Springs. This description is the basis for the analysis contained in this Draft EIR.

### **3 PROJECT DESCRIPTION**

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#### **3.4.1 Vision**

The fundamental goal of the City of Santa Fe Springs is to provide a high quality of life for all people residing, working or frequenting the City. In accordance with this overall goal, subsidiary goals are intended to provide for:

- Individual well-being: Maximum opportunity for the individual to function effectively and to enjoy life. This involves: health and safety; self-expression and self-development opportunities; option for privacy; and, variety of recreation and aesthetic enjoyment opportunities.
- Economic well-being: Providing the necessities of life in an efficient manner, with jobs and income being of primary concern. The conserving of resources for long-term utilization also is a guiding principle.
- Social well-being: Opportunity for rewarding interaction among citizens. This involves the complete range of formal and informal relationships, including family life, neighborhood groups, clubs and associations, community organizations, church groups, and civic and political participation.
- Environmental well-being: Providing for the protection from hazardous materials and conditions to ensure the basic safety of every day life.

In all cases, equal opportunity for all members of society to achieve individual, economic, social and environmental well-being is an essential goal of the City of Santa Fe Springs.

Another important component of the City's vision for the future is the commitment to maintaining the single-family nature of the housing stock and the provision of convenient shopping for goods and services through the designation of commercial uses near housing areas. Due to the predominance of industrial land uses in the City, a major focus of the General Plan Update is a continued effort to provide for the conservation and rehabilitation of the City's single family housing stock, in addition to providing for better utilization of land where existing oil fields now exist. The vision for the City also encompasses the addition and preservation of open space.

#### **3.4.2 Goals**

Each element of the General Plan contains goals, policies and implementation programs based upon the needs and desires of the community, as derived from the background research, public workshops, Technical Subcommittee meetings, planning staff and members of the Planning Commission and City Council. A goal is defined as a broad vision of what the community wants



### **3 PROJECT DESCRIPTION**

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to achieve or provide to residents, landowners, business owners and tourists. It is a statement of a desired condition based on community values. Goals are general in nature and usually ongoing. Table 2 contains the goals that have been established for the Santa Fe Springs General Plan.

#### **3.4.3 Land Use Summary**

The following provides a thorough definition of the allowable land uses in the City of Santa Fe Springs and a discussion of each land use designation and the types of uses it would allow. Because of the predominantly built-out nature of the community, in most instances, the existing and proposed land uses are the same.

##### **A. Residential**

The provision of a desirable and diversified living environment is a primary function of the City of Santa Fe Springs. To meet the needs of the residential community, the City provides for three residential designations ranging from low-density single-family homes to high-density multi-family developments. Currently, the City contains detached single-family residences, townhomes, condominiums, apartments and mobile homes.

##### **1. Single-family Residential**

This category applies to all detached single-family neighborhoods in the City. Roughly 90% of the single-family units are located in the northwestern portion of the City. The purpose of this land use category is to encourage and promote a suitable environment for family life by providing for the development of adequate homes, yards, schools, parks/recreational facilities and other residential facilities, and to protect and stabilize desirable characteristics of residential areas. Residential dwelling unit densities in this category will correspond to those intensities allowed under the R-1 zoning category, where only one dwelling unit per lot is permitted on each lot of at least 5,000 square feet or 8.7 dwelling units per gross acre. Approximately 405 acres of the City are classified as Single Family Residential.

##### **2. Multi-family Residential**

This land use designation includes two categories: Condominium/Townhouse and Apartment. The purpose of this land use designation is to provide a suitable environment for family life for those wishing to live in condominiums, townhomes or apartments. The intent is to promote desirable residential characteristics for medium density living and to stabilize and protect existing medium density areas by the establishment of those requirements and facilities conducive to proper development. Multi-family residential land uses are found throughout the western portion of the City. The prevailing density in these areas corresponds to the R-3 zoning category. Two

### 3 PROJECT DESCRIPTION

thousand square feet of lot area is required for each dwelling unit, yielding a density of 21.8 dwelling units per acre. In those areas with a Planned Development (PD) overlay, density may be increased to roughly 25 dwelling units per acre.

#### 3. Condominium/Townhouse

This category consists of homes that are attached to one another in one building structure. These differ from apartments in that units are under individual ownership rather than rental. Approximately 13 acres have been devoted to condominium/townhouse development in the City. An example is the Villa Verde townhouse development on Alburdis Avenue.

#### 4. Apartment

This category includes attached homes that are located in the same building structure. Unlike condominiums/townhomes, these units are all rented. An estimated 51 acres in the City has been developed for apartment use. Two examples of apartments are the Silvercrest development on Lakeland Road and the Villa Santa Fe complex on Florence Avenue.

TABLE 2  
SANTA FE SPRINGS GENERAL PLAN GOALS

Land Use Element	
General Land Use Goals	Goal 1 Provide for attractive, efficient and productive use of land in Santa Fe Springs by maintaining a balance within the City to emphasize local identity, preserve the single family nature of the community, maintain a high quality of life, and create an efficient yet pleasing environment.
	Goal 2 Maintain a reasonable balance between the costs of providing municipal services, and the benefits derived from land, improvements and use. Emphasize development projects which are fiscally positive or neutral to the City.
	Goal 3 Emphasize managed and reasonable growth through City policies and market forces that result in a pattern of land uses which will tend to maintain or reduce travel times and distances required for daily activities.
	Goal 4 Where incompatible land uses are in proximity to one another, provide for buffering, transitional uses or other controls which will reduce the conflict to the maximum extent possible.

### 3 PROJECT DESCRIPTION

**TABLE 2  
SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 5	Provide an environment to stimulate local employment, community spirit, property values, community stability, the tax base, and the viability of local business.
	Goal 6	The City shall coordinate efforts with those of the county regional planning commission with regard to development within the City's sphere of influence, assuring that such development is consistent with City standards to the greatest extent feasible.
	Goal 7	Sites of historical or cultural interest should be preserved and enhanced.
	Goal 8	Ensure that all utilities are put underground to the greatest extent possible throughout the City with special emphasis on the corridors.
Industrial and Commercial Development Goals	Goal 9	Provide for growth and diversification of industry and industrial related activities within the Santa Fe Springs industrial area.
	Goal 10	Protect all land suitable for industrial use from encroachment by nonindustrial use.
	Goal 11	Support and encourage the viability of the industrial and commercial areas of Santa Fe Springs.
	Goal 12	Encourage high quality, appropriate private investment in commercial areas of Santa Fe Springs.
	Goal 13	Seek to provide a variety of job opportunities in order to accommodate residents of the City as well as the residential population of the surrounding communities. Substantial job opportunities in the area should reduce time-consuming commuting and, of equal importance, reduce traffic congestion and the resultant air pollution.
	Goal 14	Expand the I-5 Freeway within the existing Right-of-Way.
Residential Community Goals	Goal 15	Maintain and improve the residential community of Santa Fe Springs as an area of safe, quiet, pleasant neighborhoods, conveniently served by shopping, schools, parks, churches and other community facilities. The single family nature of the community should be preserved and enhanced.
	Goal 16	Generally maintain a low-density character in the residential areas of the City.
	Goal 17	Improve the appearance and attractiveness of the residential areas of the community.



### 3 **PROJECT DESCRIPTION**

**TABLE 2  
SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 18 The City shall utilize code enforcement, rehabilitation programs, and encourage voluntary efforts to stem deterioration of neighborhoods affecting the values and enjoyment of property within the City.
Open Space Goals	Goal 19 Preserve existing open space areas and carefully plan for its development keeping in mind that open space is an alternative to development.
	Goal 20 Maintain, expand and enhance historic, cultural and artistic programs throughout the community.
<b>Circulation Element</b>	
Local Thoroughfares and Transportation Routes	Goal 1 Provide a system of streets that meets the needs of the City and facilitates the safe and efficient movement of people and goods consistent with the City's ability to finance and maintain such a system.
Intercity and Regional Transportation	Goal 2 Support development of regional transportation facilities which ensure the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and which accommodate the regional travel demands of adjacent areas outside the City.
Transportation System/Demand Management	Goal 3 Develop and encourage a transportation demand management (TDM) system to assist in mitigating traffic impacts and in maintaining a desired level of service on the circulation system. The TDM system will be in accordance with the TDM ordinance adopted by the City of Santa Fe Springs pursuant to the requirements of the State's Congestion Management Plan Act.
Truck Circulation	Goal 4 Provide for a truck circulation system that facilitates the effective transport of commodities while minimizing the negative impacts throughout the City.
Public Transportation	Goal 5 Maintain participation in a public transit system that provides mobility to all City residents and employees as a logical alternative to automobile travel.
Trail Systems	Goal 6 Provide a system of safe, efficient and attractive bicycle and pedestrian routes for commuter, school and recreational use.
Parking	Goal 7 Provide sufficient, well-designed and convenient off-street parking facilities throughout the City.
Level of Service	Goal 8 Comply with adopted performance standards for acceptable levels of service.
<b>Open Space/Conservation Element</b>	



### 3 PROJECT DESCRIPTION

**TABLE 2  
SANTA FE SPRINGS GENERAL PLAN GOALS**

Open Space	Goal 1	Preserve existing open space and carefully plan for its development.
	Goal 2	Provide for present and future open space and recreational needs.
	Goal 3	Ensure that historically significant buildings and properties are identified and preserved to the greatest extent possible.
	Goal 4	Continue to add to the collection of permanent outdoor sculptures by actively enforcing the Heritage Artwork in Public Places Program.
Conservation	Goal 5	Continue to protect and preserve the City's natural resources.
	Goal 6	Protect and preserve the City's air quality.
	Goal 7	Protect and preserve the City's water quality.
<b>Housing Element</b>		
Maintenance and Preservation	Goal 1	Maintain and enhance the quality of existing residential neighborhoods in Santa Fe Springs.
Housing Opportunities	Goal 2	Promote the continued availability of a range in unit types and sizes regardless of income, race or ethnic background.
Home Ownership	Goal 3	Provide increased opportunities for home ownership.
Environmental Sensitivity	Goal 4	Ensure that new housing is sensitive to the existing natural and built environment.
<b>Safety Element</b>		
Seismic Hazards	Goal 1	The highest of priorities in the land use planning process shall be given to minimizing serious injury, loss of life and property as a result of seismic activity.
	Goal 2	The highest of priorities in the land use planning process shall be given to insuring the continuity of vital services and functions in the event of an earthquake.
	Goal 3	Continue active redevelopment to remove structures which are vulnerable to seismic activity.
	Goal 4	Continue review of various public-private sector funding options for structural seismic retrofitting.
Flooding & Inundation Hazards	Goal 5	City employees who might be involved in the evacuation due to dam failure and inundation should be briefed on the evacuation plan and the location of sheltering facilities easterly of the City.

### 3 **PROJECT DESCRIPTION**

**TABLE 2  
SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 6	At five year intervals, the County and City Storm Drain Master Plans should be reviewed as to sufficiency.
Emergency Preparedness	Goal 7	Not less than every three years, conduct a complete review, and, as necessary, amend the City's Emergency Preparedness Master Plan, "Multi-Functional Plan" and "Emergency Operations and Procedures Plan.?"
	Goal 8	Support all inter-governmental efforts to create effective disaster management systems.
	Goal 9	Continue the training of City employees on disaster response operations, including simulation exercises.
	Goal 10	The City needs to identify and communicate to the public an inventory of alternative emergency systems within the City, e.g., potable water, water for fire protection, communications, security, waste collection, and emergency energy.
	Goal 11	Continue training of City employee families, and the families of business employees within the City on home emergency preparedness in order to enhance employee availability for response.
	Goal 12	Identify locations for priority disaster assistance attention, e.g., the households of senior citizens and the disabled.
	Goal 13	Maintain and improve the data base systems of the City's Emergency Operations Center, including risk data and the resource availability lists.
	Goal 14	Continue to improve the City's communications systems through the creation of redundancies and enhanced use effectiveness.
	Goal 15	Within reasonable resource expenditure levels, continue to enhance the City's inventory of dedicated emergency preparedness supplies and equipment.
	Goal 16	Seek ways to enhance the City's sheltering inventory, especially as to facilities outside the potential dam inundation area are identified in Section III of the Safety Element. Churches, warehouses and other private sector options should be explored.
	Goal 17	Continue to develop debris removal techniques and strategies.
	Goal 18	Encourage high occupancy locations, particularly senior citizen uses, to develop emergency preparedness plans, including evacuation.

### 3 **PROJECT DESCRIPTION**

**TABLE 2**  
**SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 19 Explore emergency water pumping apparatus, e.g., swimming pools, to supplement Fire Department equipment during emergencies.
Fire Hazards	Goal 20 Work with relevant regulatory agencies to secure commitments from existing fire risk sources to retrofit for code compliance and to fully utilize current fire resistance technologies for risk reduction.
	Goal 21 Encourage the development of improved public and private sector fire insurance.
	Goal 22 Maintain an aggressive weed abatement program.
	Goal 23 Aggressively promote smoke detector systems in both residential and business uses.
Fire Protection and Paramedic Delivery Systems	Goal 24 Continue to protect the Santa Fe Springs community from the loss of life and property from fire damage. This includes the goal of keeping fire loss costs within the community to an absolute minimum.
	Goal 25 To reduce the adverse economic, environmental, and social impacts of fire on the community.
	Goal 26 To provide effective fire prevention services through the proactive review of proposed and existing land uses, with particular focus on high level fire exposures.
	Goal 27 Within reasonable resource expenditures, maintain the highest possible ISO rating for the City and its Fire Department.
	Goal 28 Give the highest of planning priorities to safety standards in the acquisition and maintenance of fire suppression facilities and equipment.
	Goal 29 Continue to seek technological and information system advances which will enhance the efficiency and effectiveness of the Fire Department.
	Goal 30 Continue to develop the Incident Command System (ICS) to seek the highest levels of intra-city and inter-agency coordination of fire scene operations.
	Goal 31 The City should review its Water Master Plan to assure the continued integrity of the peak water flow requirement, including potential acquisition of other purveyors within the City.
	Goal 32 Efforts should continue to seek greater private sector involvement in both the prevention of fires and suppression of such through the creation of "fire brigades".



### 3 **PROJECT DESCRIPTION**

**TABLE 2**  
**SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 33	Development needs to continue on systems to support private sector voluntary fire prevention inspections for "low end" risks.
Hazardous Material Hazards	Goal 34	The City should continue to support legislative activity at the federal and state level which strengthens management of these hazards and which gives the City greater authority to coordinate the handling of such.
	Goal 35	The City should support efforts by the State Water Control Resources Board to seek full disclosure of under and above-ground storage tank leaks, including both the existence and extent of such and also the impacts on the water table.
	Goal 36	Continue to expand the City's consolidated data base on the variety of hazmat and chemical-based risks within the City and in doing so enhance the access to such by all field public safety and fire personnel.
	Goal 37	Encourage the designation of hazardous material transportation routing through the corridors which reduce public risk to a minimum. Encourage such action both formally and informally. Consider City action in this regard.
	Goal 38	Develop programs or promote the availability of activities which allow for the disposal of small quantities of hazardous material by small users, both household and industrial.
Hazardous Materials Protection Delivery System	Goal 39	Hazmat response staff training and equipment should be kept current with the changing nature of the hazardous material set of risks within the City.
	Goal 40	The City should apply in 1995 to the State of California to become the "Certified Unified Administering Agency" for consolidated management of the Hazardous Materials Business Plan, Risk Management Prevention Plan, Hazardous Waste, Aboveground and Underground Tank Programs.
	Goal 41	Continue to develop public/private partnerships to disclose, manage and respond to risks associated with hazmat uses.
	Goal 42	Continue to promote the development of regional resources, including trained staff/responders and equipment, for the management of and response to hazmat incidents.



### 3 PROJECT DESCRIPTION

**TABLE 2**  
**SANTA FE SPRINGS GENERAL PLAN GOALS**

Crime and Traffic Safety Characteristics and Hazards	Goal 43 Data-based and human systems should be developed to continue refining definition of the City's crime and traffic safety problems in support of both enforcement and also land use and programmatic planning processes.
	Goal 44 Crime deterrence or "target hardening" strategies and techniques should be included in all development plan review. An understanding should be developed that encourages investment in crime prevention in a manner no different than the investment in fire prevention measures to reduce loss.
	Goal 45 Crime deterrence or "target hardening" strategies and techniques should be included in all review of City capital improvement projects and in periodic reviews of the City's infrastructure, e.g., the City's street and facility lighting, security and landscaping designs.
	Goal 46 "Defensible" space design principles should be considered for commercial and multiple-family developments.
	Goal 47 Efforts should be made to work with the private sector in retrofitting multiple-family projects with "defensive space" and other security considerations.
	Goal 48 Through the framework of the Circulation Element of the General Plan, the City should continue review of capital construction and design considerations to mitigate the effects on public safety of increasing levels of traffic volumes and intersection capacity utilization.
	Goal 49 When available to General Law cities, such as Santa Fe Springs, continue to develop fiscal resources tied to services rendered, particularly for those services associated with extraordinary risks.
	Goal 50 The City's Capital Improvement Plan should continue to give priority to street safety remedies and enhancements, including response to on-going assessment and inspections of safety system criteria. High priority should continue to be given to high traffic volume streets, intersections with high capacity utilization, mixed traffic use locations, street light deficiencies and unpaved roads.
Crime Protection and Traffic Safety Delivery System	Goal 51 The City will continue to protect the Santa Fe Springs community from the loss of life and property from crime or traffic hazards.
	Goal 52 To reduce the adverse economic, environmental, and social impacts of crime and traffic hazards on the community.

### 3 **PROJECT DESCRIPTION**

**TABLE 2**  
**SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 53	The City will continue to explore various regional cooperative approaches to reducing the regional impacts of crime. An example of such an approach includes the City's project of intergovernmental relations with the County of Los Angeles in the South Whittier unincorporated area.
	Goal 54	To continue development of effective approaches to focusing and coordinating the criminal justice system on specific Santa Fe Springs crime hazards.
	Goal 55	To more effectively integrate all the City's resources in addressing specific crime or traffic hazards.
	Goal 56	To become increasingly effective in using the variety of City programs and resources to deter crime, through child and family development, behavioral counseling and modeling, and diversion/alternate activity programs, etc.
	Goal 57	Continue efforts to enhance the community's involvement with law enforcement and vice versa and, in so doing, maintain good relations between all citizens and law enforcement personnel.
	Goal 58	Continue to seek ways in which non-sworn employees, volunteers and the community can be more effectively utilized to maximize the efficiency of sworn officers.
	Goal 59	Continue development of neighborhood crime watch programs as a crime prevention strategy.
	Goal 60	Give priority to the enforcement of commercial and hazmat transportation laws on all city streets.
	Goal 61	Within reasonable resource expenditures, the City's crime protection system will keep crime rates, service response times and property loss rates at the lowest levels feasible and keep crime clearance rates and property recovery at the highest feasible levels.
	Goal 62	Efforts will be made to continue to increase the connection between the schools and City to solve juvenile crime problems, in a proactive and preventive manner, including supporting of school-based disciplinary systems, e.g., school attendance review boards.
	Goal 63	As the City's infrastructure ages, maintenance and restoration needs to be given higher priorities, e.g., bridge and overpass structures.

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**TABLE 2  
SANTA FE SPRINGS GENERAL PLAN GOALS**

Critical Facilities Hazards	Goal 64 The City in developing public safety priorities and programs will do so with the goal of maintaining a continuity of vital services and functions during an emergency.
	Goal 65 Critical facilities will continue to be regularly monitored to be certain that emergency functions are maintained and that generators, computers, and other vital nonstructural elements are properly anchored.
	Goal 66 Every five years the City should review its critical facilities as to sufficiency to meet the emergency public safety needs and to be certain that the infrastructure of communications, information, and sheltering systems are adequate.
	Goal 67 Evaluation should be made as to the impact of and response to a dam inundation which might close many City critical facilities.
	Goal 68 Continue to support earthquake mitigation measures and provisions for alternative or back-up essential services, such as water, electricity, and natural gas pipelines and connections.
	Goal 69 Continue to coordinate with Southern California Gas, Southern California Edison, General Telephone, Metropolitan Water District and other local water agencies to develop plans for provision of emergency services.
Safety Standards Delivery System	Goal 70 The City will continue to develop more effective systems for seeking community input on areas of code enforcement need and development.
	Goal 71 The City should support actions at all levels of government to streamline regulatory administration, without compromising, at the local level, the effectiveness of the mitigation actions.
	Goal 72 The City should work to cross-train its staff in the basic elements of each of the standard systems described herein in an effort to maximize efficiency and effectiveness and to decrease the bureaucratic burden upon the public.
	Goal 73 Through code enforcement and inspection activities, potential public safety hazards should be identified and mitigation actions required or encouraged, depending on the severity of the risk. Retrofitting of facilities and equipment should be perceived as a priority solution.



### 3 **PROJECT DESCRIPTION**

**TABLE 2**  
**SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 74	Code inspectors, fire safety and police services staff should encourage businesses and residents to assist in reducing community risks by becoming involved in the volunteer Business and Safety Neighborhood Teams as described in Section IV of the Safety Element.
	Goal 75	The review of all development projects having public safety risk impacts, including crime and traffic, should include input from staff in all of the potentially impacted City departments.
	Goal 76	City priority needs to be given to the development of new approached and technologies to "harden commercial targets" from the impacts of crime and incorporating these into City development codes.
	Goal 77	As the regulatory effectiveness of other agencies is adversely impacted by fiscal limitations, reasonable decisions must be made by the City as to its ability to assume some of the authority for such regulation.
Public Safety Education System	Goal 78	Programs to recruit, organize, train and motivate volunteers in all areas of the public safety system should be continued.
	Goal 79	Community training programs in family education, crime and fire prevention, traffic safety and emergency preparedness should be kept current as to content and should be made available to the community to the extent possible within resource restraints.
	Goal 80	Close coordination with the City's schools in the provision of public safety education as a vital part of the child development curriculum should continue.
	Goal 81	A library of printed, audio and visual materials on public safety should be maintained and made available to the community.
	Goal 82	A priority for community training should be the development in the residential and business communities of safety self-inspection capabilities. This includes an understanding of safety standards and codes.
	Goal 83	Continue to promote community-based feedback to the entire public safety program, including formal community and Chamber of Commerce committees.
	Goal 84	A variety of inter-disciplinary approaches should be used to work with families in developing functional societal behaviors by juveniles.



### 3 **PROJECT DESCRIPTION**

**TABLE 2**  
**SANTA FE SPRINGS GENERAL PLAN GOALS**

	Goal 85 High priority should be given to working with the media to promote the dissemination of information about the City's public safety programs.
	Goal 86 Give higher priority to the development and implementation of traffic safety education programs, including both vehicular and bicycle.
	Goal 87 The City should create increasingly effective systems of communicating to the public through public safety education, the content of various public safety standards and law.
Element Implementation	Goal 88 The City shall provide an environment that is reasonably safe from hazards so that the residents and businesses of Santa Fe Springs can be free from fear and apprehension.
	Goal 89 The City shall develop the resources to implement the necessary planning and administrative strategies to carry-out the policies and purposes of this Safety Element.
	Goal 90 The City shall lead the effort to maximize the cooperation and coordination of public, private, community and inter-agency resources to implement the Safety Element.
	Goal 91 The City will make every effort to maintain the vitality of the Safety Element, including formally reviewing the policies and goals set forth herein every five years.

#### 5. Mobile Homes

This land use designation includes individual mobile homes that are owned or rented, and which are separated by lot boundaries. There are approximately 8 acres in Santa Fe Springs that are dedicated to mobile homes. Examples include Lakeland Villas on Lakeland Road and Norwalk Boulevard (currently zoned M-2), and Elmwood located south of Washington Boulevard, on Sorenson Avenue (currently zoned C-4).

#### B. **Commercial**

Commercial land use designations are intended to provide for convenient shopping for goods and services, and to establish standards of development to ensure wholesomeness, prosperity and harmony of commercial areas with adjoining land uses. Consequently, commercial uses are surrounded by or in close proximity to residential land uses. The General Plan indicates that strip

### **3 PROJECT DESCRIPTION**

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commercial areas should be avoided, and that the principal commercial uses, retail trade, services and offices, should be large enough to be classified as neighborhood or community shopping centers. The lot area covered by commercial buildings or structures should not exceed 50% of the total lot area.

#### **1. General Commercial**

This category includes commercial stores or centers less than 100,000 square feet in size such as specialty retail centers with a variety of shops (e.g. quality apparel, hard goods, real estate services, florists, small restaurants). Currently, there are 35 acres throughout Santa Fe Springs devoted to this category of land use and designated as either C-1, Neighborhood Commercial or C-4, Community Commercial zoning.

#### **2. Commercial Center**

Included in this category are commercial centers, including major shopping centers, that are at least 100,000 square feet in size. This land use designation applies to office and commercial activities that serve the City as well as surrounding markets. Areas identified for this land use are located on arterial streets and are zoned C-4. Commercial centers currently occupy 112 acres in the City and include: The Marketplace, Santa Fe Springs Mall, Promenade Shopping Center and Santa Fe Springs Plaza.

#### **3. Freeway Commercial**

This category includes stores, offices and businesses having high freeway visibility and selling specialty goods such as furniture, auto parts and auto dealerships, and providing services such as restaurants, motels and auto repair. All 90 acres of development along the I-5 Freeway are classified under this land use designation. However, the current zoning is M-1 or M-2. The General Plan Land Use Element envisions a transition away from strictly manufacturing uses to a mixed commercial designation that takes advantage of the exposure afforded by the freeways.

### **C. Industrial**

This category provides for all permitted industrial uses in the City, subject to a variety of performance standards including noise, appearance, traffic and air pollution. Oil and gas drilling, industrially-related commercial, service, manufacturing and office uses, as well as public facilities of an industrial nature may be included in this land use designation, at suitable locations. This intention of this classification is to preserve lands of the City appropriate for light as well as heavy industrial uses, to protect these lands from intrusion by dwellings and inharmonious commercial uses, and to promote uniform and orderly industrial development. Ideally, the industrial development standards will create and protect property values, foster an efficient,



### **3 PROJECT DESCRIPTION**

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wholesome and aesthetically pleasant industrial district, attract and encourage the location of desirable industrial plants, and provide proper safeguards while emphasizing managed and reasonable growth. There are three categories of Industrial use in Santa Fe Springs.

#### **1. Business Parks**

This land use category is subject to a high standard of design control, landscaping and setbacks to create a park-like atmosphere. The area proposed for business parks is located between the Santa Fe Springs residential community and the Southern Pacific Railroad and extends down Telegraph Road and Bloomfield Avenue. Examples of this use include the Heritage Corporate Center and the Town Center Business Park. Offices of all types, particularly company headquarters and research and development activities are to be encouraged. Industrial uses in this area should be restricted to limited manufacturing, research and light assembly operations. Restaurants and other commercial services catering to industries, their employees and customers are permitted. Oil production, storage or refining should be avoided or should be an intermediate land use. Currently, 104 acres of land is zoned ML. The minimum lot size for the business park category is 25,000 square feet with a maximum building coverage of 50%.

#### **2. Light Industrial**

Development in this land use category should be conducive to light industrial buildings that are pleasing in appearance and that will foster mutually beneficial relationships with surrounding land uses. Development involving large-scale material processing and heavy trucking should be excluded. Small and medium size warehousing and distribution may be permitted providing the volume of truck traffic is not excessive. Light industrial facilities usually have 500 or fewer employees and have an emphasis on activities other than manufacturing such as printing plants, materials testing laboratories, and data processing. Land designated for light industrial uses are the 189 acres of properties zoned M-1. Typically, there would be a 45% building to land ratio.

#### **3. Heavy Industrial**

The heavy industrial classification applies to all of the Santa Fe Springs industrial area east of the Los Nietos-Studebaker branch of the Southern Pacific Railroad, with the exception of those areas designated with a PD overlay. This category includes facilities where large items are manufactured and where a significant amount of land or building area is devoted to equipment or product storage. Included in this category are oil refineries such as Powerine and Golden West which store, refine and process petroleum products. Major distribution facilities also are included in this land use category. The number of employees working in this type of warehouse is often low due to mechanization. Truck activities occur most frequently during the off-peak period of the adjacent street system. Examples include Certified Grocers, Fedco and Vons. A

### **3 PROJECT DESCRIPTION**

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minimum lot area of 7,500 square feet is required for all of the 3,441 acres of land zoned M-2.

#### **D. Public Service Centers**

The Public Service Center category refers to those public facilities that are operated and maintained for the public's benefit, welfare or use. This category is intended to provide adequate space for community facilities of a public or quasi-public nature in locations best suited to serve the needs of the community. It also protects such lands from intrusion by other uses and sets forth development standards necessary to ensure that such uses are compatible with the public service centers. The Library and City Hall, in addition to the fire stations, churches, cultural and historical sites and community service and recreation areas, are all principal uses in this classification and are required to follow the Public Use Facilities (PF) zone guidelines.

##### **1. Civic Center**

The Civic Center consists of the City Hall, Town Center Hall, a Post Office, the Aquatic Center and a Fire Station. Each of the buildings in the approximately 13 acre site is interconnected by pedestrian walkways.

##### **2. Public Safety**

There are four fire stations located throughout the City occupying approximately 3 acres, including addition to the Fire Department Headquarters located on Greenstone Avenue. The Police Service Center located at the southwest corner of Jersey Avenue and Telegraph Road also is included in this category.

##### **3. Churches**

There are several churches located in Santa Fe Springs covering a total of approximately 11 acres. Churches are permitted in the PF zone and are allowed by a Conditional Use Permit in the R-1, R-3, C-1 or C-4 zones.

##### **4. Historical and Cultural Sites**

This category (approximately 22 acres) includes any community involvement center and all significant structures or sites which should be preserved for their historical interest and/or maturity. Examples are the Heritage Park complex and the Clarke Estate.

##### **5. Cemeteries**



### **3     *PROJECT DESCRIPTION***

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This category contains 21 acres of land and includes three cemeteries in the City: Paradise Memorial Park on Florence Avenue, Little Lake Cemetery on Lakeland Road and the Old German Church Cemetery at Los Nietos Road and Painter Avenue.

#### **6.     Social Service Facilities**

Social Service Facilities include the Neighborhood Center at the corner of Pioneer Boulevard and Placita Place and the three child care centers located throughout the City.

### **3 PROJECT DESCRIPTION**

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#### **7. Parks/Open Space**

In addition to public parks and athletic facilities, this category includes transmission line rights-of-way and publicly owned lands which are anticipated to remain undeveloped. There are 16 park sites in the "City of Parks" containing 111 acres of open space land. This land use category serves both residents and the business community with passive and active recreation opportunities.

#### **8. Schools**

All public, parochial or private elementary, intermediate, junior high and high schools are included in this category: Rancho Santa Gertrude Elementary, Jersey Elementary, Lakeview Elementary, Lake Center Elementary, Santa Fe High School and St. Paul High School. This category encompasses 121 acres.

#### **E. Special Study Areas**

The Land Use Element of the General Plan designates three Special Study Areas within the City based upon development patterns, major streets and natural topography. All three areas are currently zoned for industrial use, although the zoning may be changed after completion of a special study. All land developed within the Special Study Areas will be master planned to ensure compatibility with the General Plan. The Special Study Areas are described in Section 3.1 above.

#### **F. Spheres of Influence**

Local Agency Formation Commissions in the State of California are required to adopt spheres of influence for all cities and special districts under their jurisdiction. The purpose of the adopted sphere of influence is to enable the local agencies to logically plan for their probable ultimate physical boundaries and service areas. Adoption of spheres of influence does not initiate annexation proceedings, nor does it give automatic approval of any future annexation proposals. There are four unincorporated areas adjacent to City boundaries that are considered to be in the sphere of influence of the City of Santa Fe Springs. These include:

- The area east of the San Gabriel River and south of Washington Boulevard, extending into the boundaries of the City of Santa Fe Springs, known as the unincorporated Los Nietos area.
- The area south of Mystic and west of Painter Avenue, extending into the boundaries of the City.

### ***3 PROJECT DESCRIPTION***

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- The area west of Carmenita Avenue, north of Lanett Avenue.
- The area south of Telegraph Road, west of Valley View and north of Imperial Highway.

### 4.1 Land Use/General Plan/Zoning

#### 4.1.1 Environmental Setting

The City of Santa Fe Springs is located approximately 13 miles southeast of downtown Los Angeles and 18 miles north of the City of Long Beach. Neighboring cities include Whittier, La Mirada, Cerritos, Norwalk, Downey and Pico Rivera. The City lies at the convergence of two major transportation routes, Interstates 5 and 605, and is traversed by the Southern Pacific and Santa Fe rail corridors.

Approximately nine percent of the City's total 5,500 acres is zoned for residential use, and the majority of these areas are fully developed. The changes in demographic characteristics have resulted in a demand for more housing, although total population has remained relative constant. These factors include an increase in single-parent families and an increase in elderly parents moving in with their adult children (three and four generation households). The population profile of Santa Fe Springs reflects the city's developmental maturity and broader demographic pressures unfolding within the Los Angeles region. The total population of Santa Fe Springs has stabilized because of the buildout of the available residential land.

There are four commercial retail centers located in the city: 1) Carmenita Plaza and the Santa Fe Springs Mall; 2) Santa Fe Springs Marketplace; 3) Promenade Shopping Center; and 4) Price's Market. During the last 10 years, all but Price Market have been renovated to enhance the existing architecture and to increase patronage.

Developable industrial land in Santa Fe Springs is rapidly being depleted. However, the City contains large amounts of petroleum production facilities that will become available for industrial development as these facilities are closed and the sites are cleaned-up. There are currently approximately 579 acres that are vacant oil fields.

Current zoning designations and existing development closely follow the City's 1974 General Plan. The 1974 General Plan calls for a community of low density, single-family residential character. The goals indicate that detached residential areas were to be contained mainly in the western part of the City near Telegraph Road. This land use pattern served to protect residential areas from the traffic, noise, and pollution associated with oil field and industrial activities located in other areas of the City. Commercial uses were to be grouped in such a way as to be convenient to each of the residential neighborhoods. Facilities of a community nature were to be located in the center of the City.



**4.1.2 Environmental Impacts and Mitigation Measures**

The major focus of the Santa Fe Springs Land Use Element is to continue the effort to provide for the conservation and rehabilitation of the City's single family housing stock and conversion of oil production land to new use. The City is also committed to rezoning one or more potential sites within the five year time frame of the Housing Element to fulfill its remaining share of regional housing needs.

The proposed updated General Plan would redesignate 579 acres of land currently designated as Heavy Industrial to Mixed Industrial (see Figure 3 in Section 3). The 579 acres are divided into three special study areas (see Figure 2 and Table 3.1A).

Special Study Area 1, including 226.93 acres, is currently an undeveloped oil field property and former oil refinery, north of Telegraph Road and east of Norwalk Boulevard, and the Townsite on the south side of Telegraph Road. Special Study Area 2, including 92.21 acres, is currently the Powerline Oil Refinery and adjacent property. This site includes a former landfill. Special Study Area 3, including 261.23 acres, is currently the Golden West Refinery and adjacent property to the west and the Amtrak Station at Imperial Highway and Bloomfield Avenue. The Mixed Industrial designation could include commercial, industrial, open space and residential uses and would be implemented by the zoning "Limited Manufacturing - Planned Development (ML-PD)". All three special study areas are contaminated and are in varying stages of site cleanup, under the direction of the Regional Water Quality Control Board, Los Angeles Region.

***IMPACT: POTENTIAL CONFLICTS BETWEEN NEW INDUSTRIAL DEVELOPMENT AND ADJACENT RESIDENTIAL AREAS***

**Impact Analysis:** The proposed General Plan largely envisions a continuation of the land use pattern represented in the 1974 General Plan and in existing land use. A major component of the General Plan is continuing protection of the existing residential uses in the western portion of the City. The Special Study Areas, where the largest changes to land use are expected, are of sufficient distance from this western residential area to avoid conflicts. Additional traffic generated by Special Study Areas 1 and 2 would traverse Telegraph Road and Florence Avenue, thereby impacting this area. The Transportation, Noise and Air Quality sections of this document indicate that this western residential area would not be significantly impacted by the land use changes included in the proposed General Plan.

Special Study Area 3 is located adjacent to Sphere of Influence Area 4, which is outside the City limits, but is largely residential. Redevelopment of this study area would not significantly impact the residential area in terms of traffic, noise and air quality. However, due to the adjacency of potential industrial use next to residential, there is a greater chance for direct environmental

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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impacts. Development of this area must be sensitive to the residential neighborhoods to the north. The policies contained in the General Plan are intended to address these concerns.

***Policies Included in General Plan:*** The Safety Element contains a number of policies relevant to potential land use conflicts (refer to Section 4.11, Public Health and Safety for these policies). Several policies in the Land Use Element are also relevant to this issue.

- 9.1 Apply the following criteria in encouraging new industries to located in Santa Fe Springs and in providing for the expansion of existing industries:
  - e. Favorable or neutral environmental effects should be encouraged while heavy, noxious, or polluting industries should be discouraged.
- 9.6 Efficient and compatible methods of extracting the remaining petroleum resources of the area should be encouraged, as well as the removal of any unused oil field equipment and unused storage facilities.
- 9.7 The City should monitor and ensure that efficient and environmentally sound techniques are used in abandoning sites, in order to preserve and enhance the environment.

***Additional Mitigation Measures Required:*** A number of mitigation measures relating to potential conflicts between sensitive land uses and new or expanded industrial uses are identified in Section 4.11, Public Health and Safety. No additional mitigation measures are necessary.

***Level of Significance After Mitigation:*** Less than significant.

### **4.2 Transportation**

#### **4.2.1 Environmental Setting**

##### **A. Existing Roadways**

The existing roadway system in the City of Santa Fe Springs is illustrated in Figure 4 together with the number of midblock travel lanes on the individual roadway segments.

Two freeways serve as regional access to the City: the I-605 Freeway with an interchange at Telegraph Road, and the I-5 Freeway. The I-5 Freeway dissects the southern portion of the City of Santa Fe Springs with interchanges at Rosecrans Avenue, Carmenita Road and Alondra Boulevard via two freeway frontage roadways, Freeway Drive and Firestone Boulevard. The I-5 and I-605 Freeways operate with three travel lanes in each direction near these interchanges.

On the arterial system, primary east/west travel in the City is provided by Telegraph Road which operates at six lanes throughout the City, by Imperial Highway with four lanes from the eastern city limits to Shoemaker Avenue where there are six lanes and by Florence Avenue, Washington Boulevard, Rosecrans Avenue and Alondra Boulevard all of which operate at four lanes. Secondary east/west travel is provided by Los Nietos Road which operates at four lanes with the exception of a two-lane section between Dice Road and Painter Avenue.

Primary north/south arterial travel is provided by Norwalk and Pioneer Boulevards, Carmenita and Orr and Day Roads, Santa Fe Springs Road/Bloomfield Avenue and Valley View Avenue all of which operate at four lanes with the exception of the two-lane Carmenita Road overcrossing of the I-5 Freeway and a two-lane section of Carmenita Road between Imperial Highway and Rosecrans Avenue. Secondary north/south travel is provided by Sorenson Avenue, Greenleaf Avenue/Shoemaker Avenue, Painter and Marquardt Avenues. Each of these facilities operates as a four-lane arterial with the exception of Marquardt Avenue which is only striped for two lanes.

##### **B. Traffic Volumes and Levels of Service**

Recent average daily traffic (ADT) volumes in the City's circulation system are shown in Figure 5 along with the corresponding volume/capacity (V/C) ratios. These volumes reflect the traffic volume on a particular segment of roadway during a 24-hour period, and were collected between April 1992 and October 1992. The heaviest volumes on the arterial system occur on Telegraph Road with volumes ranging from 27,000 vehicles per day (VPD) east of Greenleaf Avenue/Shoemaker Avenue to 53,000 VPD east of the I-605 Freeway northbound ramps, on Imperial Highway each of Bloomfield Avenue with 38,000 VPD and on Florence





## EXISTING CIRCULATION SYSTEM

The Planning Center

Santa Fe Springs General Plan Update Environmental Impact Report  
Figure 4











Avenue with 23,000 VPD west of Carmenita Road to 48,000 VPD east of Orr and Day Roads. Moderately heavy traffic volumes are also noted on Alondra Boulevard (20,000-27,000 VPD), Valley View Avenue (26,000-34,000 VPD), Slauson Avenue (32,000 VPD), Carmenita Road (21,000-25,000 VPD) and Rosecrans Avenue (23,000-33,000 VPD).

Table 3 summarizes the existing Levels of Service for selected key arterials. Also noted are link locations where the performance criteria are exceeded.

Existing a.m. and p.m. peak hour turn movement counts were also collected for a set of major intersections throughout the City. Peak period counts were made from 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m., and the peak hour of each individual intersections represents the maximum one-hour total volume within the two-hour peak period.

Existing intersection Levels of Service are calculated using the peak hour counts in combination with the geometric lane configuration of each intersection location. The technique used to assess the operation of an intersection is known as intersection capacity utilization (ICU). A Level of Service (LOS) scale is used to evaluate intersection performance based on ICU values. The levels range from "A" to "F," with LOS "A" representing free flow conditions and LOS "F" representing severe traffic congestion. Every jurisdiction establishes its own criteria for acceptable congestion levels, and the City of Santa Fe Springs uses a value of .90 (LOS "D") as the maximum acceptable ICU value for an urban environment.

Figure 6 illustrates the intersections examined in this traffic study, and Figures 7 and 8 illustrate the existing intersection geometric lane configurations assumed for use in calculating the ICUs. Existing ICU values are listed in Table 4 together with the date on which each intersection count was performed, and Figures 9 and 10 illustrate the a.m. and p.m. peak hour ICU values, respectively. Detailed ICU calculations can be found in Appendix A of the General Plan Traffic Analysis.

As the summaries indicate, a number of intersections show ICU values greater than .90, indicating that on the day of the count, the maximum acceptable ICU value was exceeded. Two intersections showing ICUs greater than .90 in both the a.m. and p.m. peak hours are Norwalk Boulevard and Washington Boulevard (a.m. ICU = 1.03, p.m. ICU = .93) and Valley View Avenue and Alondra Boulevard (a.m. ICU = 1.02, p.m. ICU = .98). Two intersections in the a.m. peak hour are over the desirable level of .90, these being Carmenita Road at Foster Road (ICU = .91) and Firestone Boulevard/I-5 southbound ramps (ICU = .93). Heavy congestion occurs in the a.m. peak hour on Carmenita Road at Firestone Boulevard/I-5 southbound ramps mainly because of its close proximity to the two-lane bridge over the I-5 Freeway, thereby adversely affecting the capacity at this intersection. Two intersections in the p.m. peak hour are also operating above .90. They are the Carmenita Road intersections at Telegraph Road and Imperial Highway (ICUs = .92 and .96, respectively).



**TABLE 3  
EXISTING LEVELS OF SERVICE - ADT LINK VALUES**

Roadway Segment	Capacity	Vol	V/C	LOS
Alondra E/O Shoemaker	38	22	.58	A
Alondra E/O Carmenita	38	20	.53	A
Alondra W/O Valley View	38	27	.71	C
Bloomfield N/O Florence	38	12	.32	A
Bloomfield N/O Imperial	38	12	.32	A
Carmenita S/O Imperial Hwy	19	24	1.26	F*
Carmenita N/O Rosecrans	19	25	1.32	F*
Carmenita N/O Alondra	38	21	.55	A
Florence E/O Studebaker	38	40	1.05	F*
Florence W/O Pioneer	38	48	1.26	F*
Florence E/O Pioneer	38	34	.89	D
Florence E/O Norwalk	38	30	.79	C
Florence E/O Bloomfield	38	28	.74	C
Florence W/O Carmenita	38	23	.61	B
Greenleaf N/O Los Nietos	30	9	.30	A
Imperial Hwy E/O Norwalk	57	37	.65	B
Imperial Hwy W/O Shoemaker	57	38	.67	B
Lakeland W/O Bloomfield	15	5	.33	A
Los Nietos W/O Norwalk	30	7	.23	A
Los Nietos W/O Santa Fe Springs	15	11	.73	C
Los Nietos W/O Painter	30	12	.40	A
Marquardt N/O Rosecrans	19	7	.37	A
Marquardt S/O Rosecrans	38	4	.11	A
Marquardt N/O I-5	38	2	.05	A
Norwalk N/O Slauson	38	18	.47	A
Norwalk S/O Los Nietos	38	19	.50	A
Norwalk N/O Florence	38	18	.47	A
Orr & Day N/O Telegraph	38	10	.26	A
Orr & Day N/O Florence	38	16	.42	A
Painter N/O Florence	15	6	.40	A
Pioneer N/O Los Nietos	38	12	.32	A
Pioneer N/O Telegraph	38	7	.18	A
Pioneer N/O Florence	38	12	.32	A
Rosecrans W/O Carmenita	38	33	.87	D

**TABLE 3**  
**EXISTING LEVELS OF SERVICE - ADT LINK VALUES**

Roadway Segment	Capacity	Vol	V/C	LOS
Rosecrans W/O Valley View	38	27	.71	C
Rosecrans E/O Valley View	38	23	.61	B
Santa Fe Springs N/O Los Nietos	38	16	.42	A
Santa Fe Springs N/O Telegraph	38	14	.37	A
Shoemaker N/O Florence	30	11	.37	A
Shoemaker N/O Imperial Hwy	15	9	.60	A
Slauson W/O Sorenson	38	32	.84	D
Sorenson S/O Washington	38	15	.39	A
Sorenson S/O Slauson	30	7	.23	A
Telegraph W/O Orr & Day	57	53	.93	E
Telegraph W/O Pioneer	57	44	.77	C
Telegraph E/O Pioneer	57	42	.74	C
Telegraph W/O Painter	57	27	.47	A
Telegraph E/O Carmenita	57	33	.58	A
Valley View S/O Rosecrans	38	26	.68	B
Valley View N/O Alondra	38	34	.89	D
Washington E/O Norwalk	38	45	1.18	F*
Washington W/O Sorenson	38	41	1.08	F*
Washington E/O Sorenson	38	41	1.08	F*

\* Indicates performance standard exceeded

Note: All numbers are in thousands





## INTERSECTIONS EXAMINED IN THIS STUDY

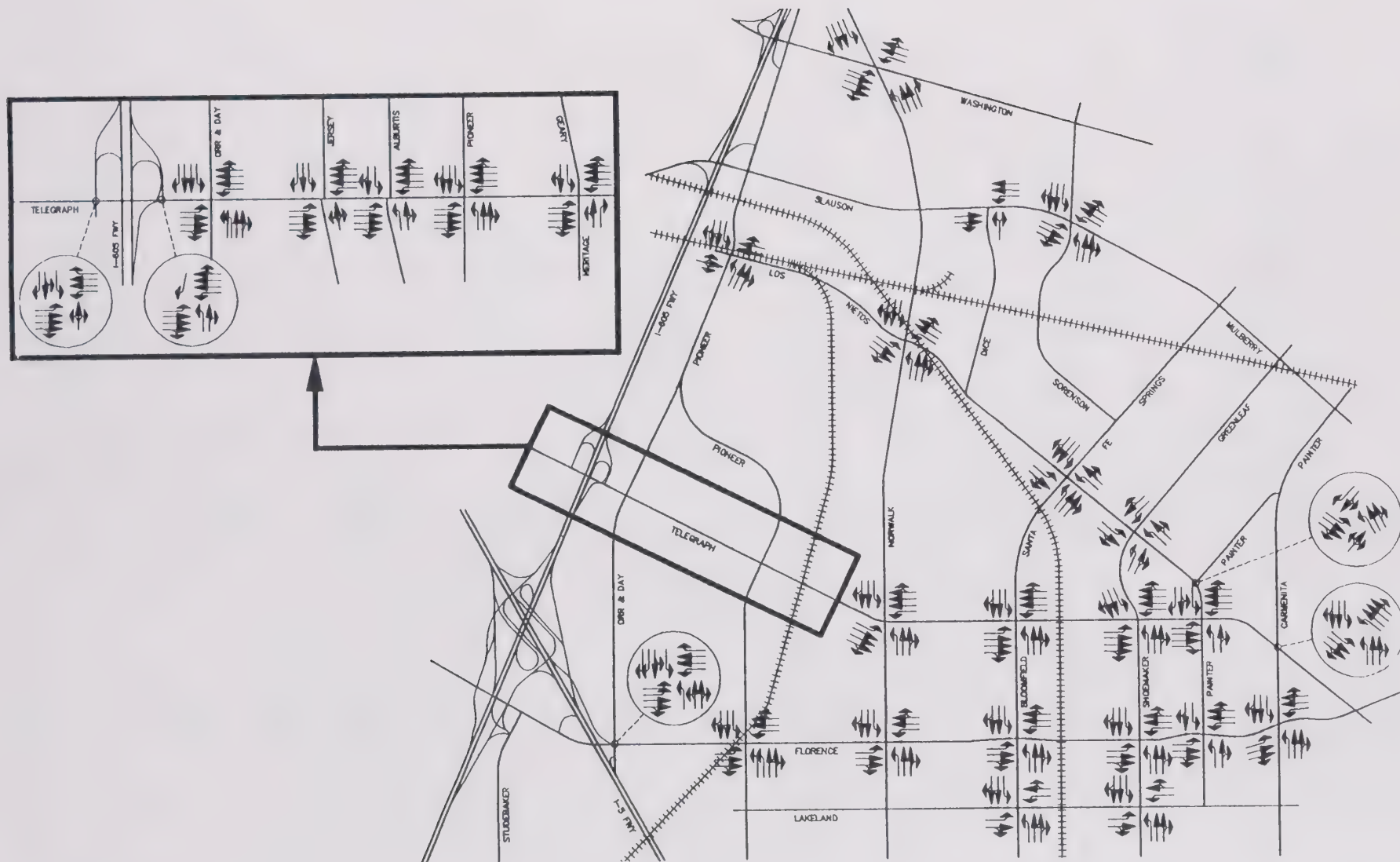
The Planning Center

Santa Fe Springs General Plan Update Environmental Impact Report  
Figure 6





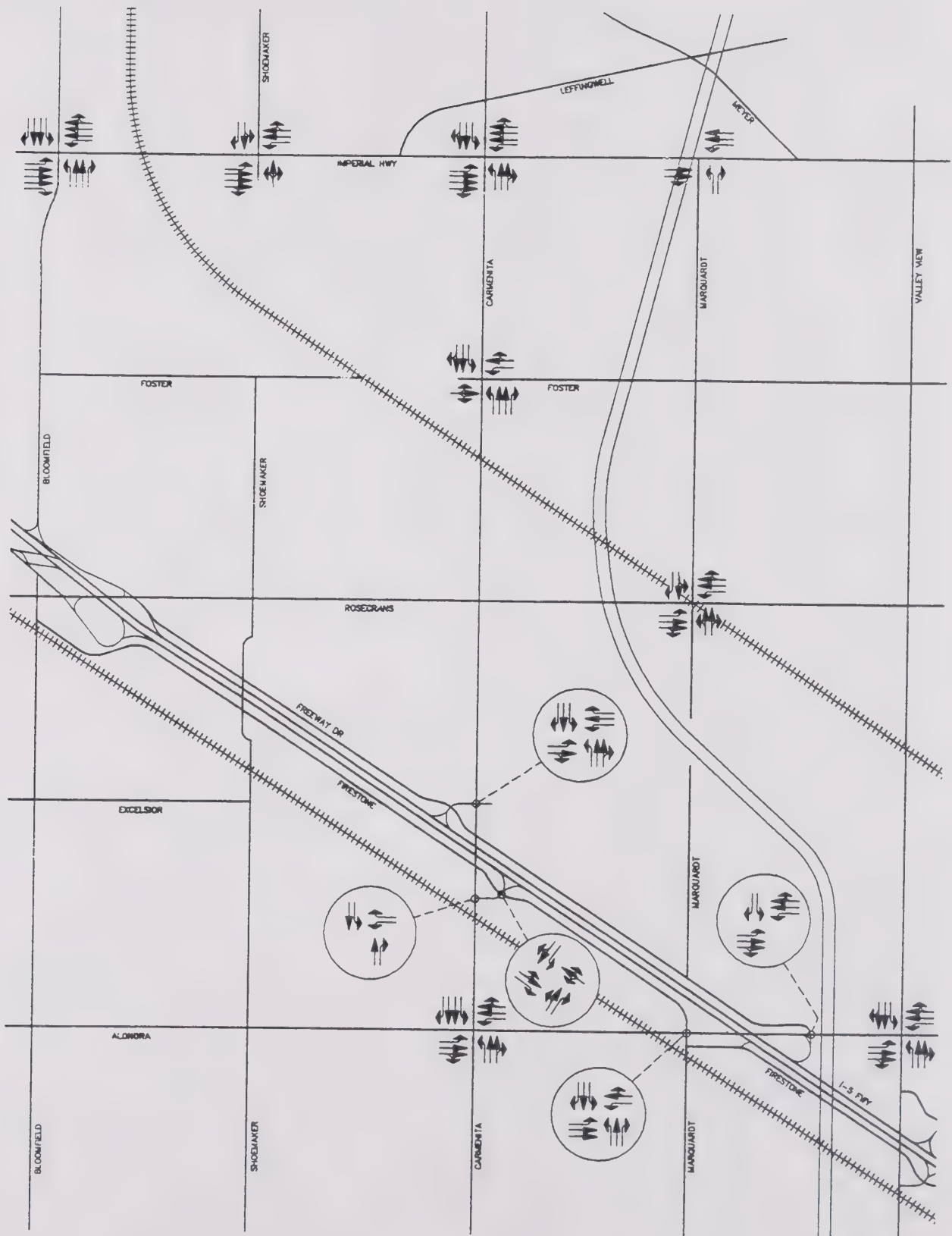




## EXISTING INTERSECTION LANE CONFIGURATIONS (NORTH)







## EXISTING INTERSECTION LANE CONFIGURATIONS (SOUTH)







## 4 ENVIRONMENTAL IMPACT ANALYSIS

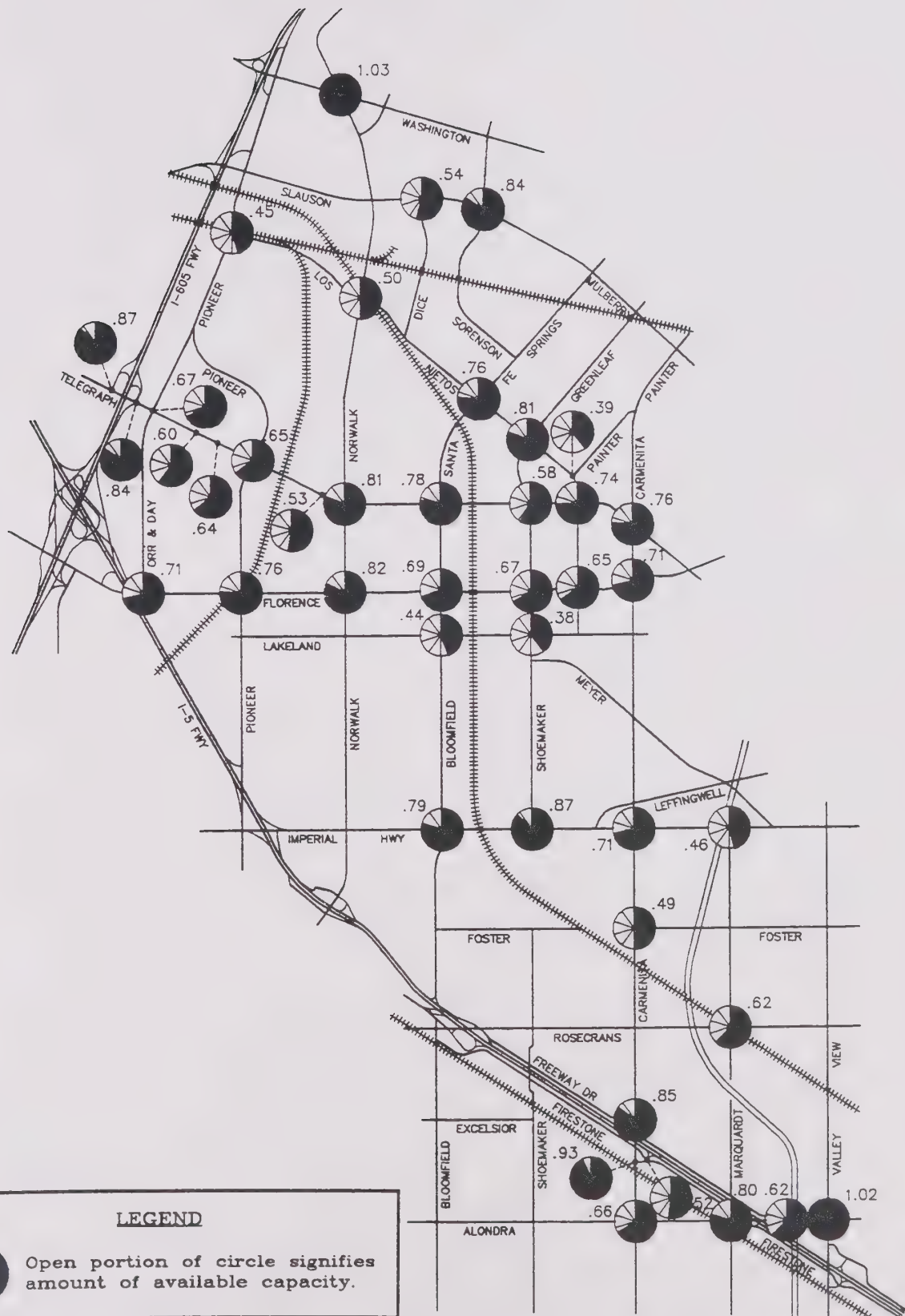
**TABLE 4  
EXISTING ICU SUMMARY**

Intersection		AM	Count Date	PM	Count Date
1	I-605 SB Ramps and Telegraph	.87	4/27/92	.83	4/20/92
2	I-605 NB/Bartley and Telegraph	.84	4/22/92	.69	4/22/92
3	Orr & Day and Telegraph	.67	4/27/92	.70	4/23/92
4	Orr & Day and Florence	.71	4/22/92	.77	4/22/92
5	Jersey and Telegraph	.60	5/7/92	.62	4/22/92
6	Alburtis and Telegraph	.64	5/12/92	.58	4/22/92
7	Pioneer and Los Nietos	.45	5/15/92	.48	5/7/92
8	Pioneer and Telegraph	.65	4/28/92	.67	4/27/92
9	Pioneer and Florence	.76	4/24/92	.77	5/11/92
10	Geary and Telegraph	.53	5/20/92	.53	5/13/92
11	Norwalk and Washington	1.03*	5/13/92	.93*	5/26/92
12	Norwalk and Los Nietos	.50	5/12/92	.53	4/20/92
13	Norwalk and Telegraph	.81	4/22/92	.82	4/21/92
14	Norwalk and Florence	.82	5/15/92	.89	4/20/92
15	Dice and Slauson	.54	5/14/92	.55	5/21/92
16	Sorenson and Slauson	.84	4/24/92	.76	4/20/92
17	Santa Fe Springs and Los Nietos	.76	10/26/92	.68	4/22/92
18	Santa Fe Springs and Telegraph	.78	5/27/92	.68	4/23/92
19	Bloomfield and Florence	.69	4/22/92	.71	4/20/92
20	Bloomfield and Lakeland	.44	4/23/92	.38	4/21/92
21	Bloomfield and Imperial Hwy	.79	6/1/92	.73	5/18/92
22	Greenleaf and Los Nietos	.81	5/20/92	.69	4/23/92
23	Greenleaf and Telegraph	.58	4/23/92	.58	4/23/92
24	Shoemaker and Florence	.67	4/24/92	.72	4/27/92
25	Shoemaker and Lakeland	.38	5/28/92	.42	4/23/92
26	Shoemaker and Imperial Hwy	.87	4/27/92	.61	4/23/92
27	Painter and Los Nietos	.39	5/27/92	.34	4/27/92
28	Painter and Telegraph	.74	5/28/92	.78	4/23/92
29	Painter and Florence	.65	5/29/92	.61	4/23/92
30	Carmenita and Telegraph	.76	4/23/92	.92*	5/19/92
31	Carmenita and Florence	.71	4/23/92	.89	5/21/92
32	Carmenita and Imperial Hwy	.85	4/27/92	.96*	5/4/92
33	Carmenita and Foster	.91*	5/19/92	.82	4/23/92
34	Carmenita and Firestone/I-5 SB Ramps	.93*	10/15/92	.62	10/15/92

## 4 ENVIRONMENTAL IMPACT ANALYSIS

**TABLE 4  
EXISTING ICU SUMMARY**

Intersection		AM	Count Date	PM	Count Date
35	Carmenita and Alondra	.66	5/6/92	.65	5/5/92
36	Marquardt and Imperial Hwy	.46	4/27/92	.67	5/5/92
37	Marquardt and Rosecrans	.62	6/1/92	.60	5/18/92
38	Marquardt/Firestone and Alondra	.80	5/18/92	.78	5/11/92
39	I-5 NB Ramps and Alondra	.62	5/15/92	.72	5/18/92
40	Valley View and Alondra	1.02*	5/8/92	.98*	5/21/92
41	Carmenita and Excelsior/I-5 NB Ramps	.85	5/13/92	.89	4/29/92
42	I-5 SB Ramps and Firestone	.52	10/15/92	.60	10/15/92
<b>Level of Service ranges:</b> .00 - .60 A .61 - .70 B .71 - .80 C .81 - .90 D .91 - 1.00 E Above 1.00 F					
* Exceeds Level of Service "D"					



## EXISTING AM PEAK HOUR ICUs









**C. Existing Circulation Plan**

The planned roadway system that is contained in the City's current Circulation Element of the General Plan is illustrated in Figure 11. One roadway connection is being considered for deletion from the Circulation Element. This is the southward extension of Shoemaker Avenue from Imperial Highway to the current termination point at the Santa Fe Railroad. Two future roadway connections are proposed. These are connections of Marquardt Avenue over the I-5 Freeway and the North Fork Coyote Creek. Two sections of Foster Road not shown in the current General Plan but which exist today, are being considered for representation in the General Plan Circulation Element. These are the sections from Carmenita Road to the eastern city limits and from Shoemaker Avenue to Carmenita. A roadway that does not exist today, but is being considered for addition to the Circulation Element is the connection of these two sections of Foster Road between the Santa Fe Railroad and Carmenita Road.

A notable feature in the current General Plan but not shown in this illustration is the Richard M. Nixon Freeway which would have run north and parallel to Washington Boulevard and eventually intersecting with Washington Boulevard, Santa Fe Springs Road, Greenleaf Avenue and Painter Avenue within the city limits. This freeway is no longer being considered for construction and is not discussed further in this report.

**D. Public Transportation**

An existing network of public bus routes providing access to employment centers, shopping and recreational areas within the City is illustrated in Figure 12. Service is provided by the Rapid Transit District (RTD). East/west service through the City is provided by Route 120 along Imperial Highway, Route 104 along Washington Boulevard, and Route 466 along Rosecrans Avenue. North/south as well as east/west service through the City is provided by (routes below are described in one direction but run in both directions):

1. Route 111 - Telegraph Road, west to Norwalk Boulevard, south on Norwalk Boulevard to Florence Avenue, west on Florence Avenue.
2. Route 270 - Broadway south to Norwalk Boulevard, south on Norwalk Boulevard to Slauson Avenue, west on Slauson Avenue to Pioneer Boulevard, south on Pioneer Boulevard to Orr and Day Road, south on Orr and Day Road to Florence Avenue, west on Florence Avenue to Studebaker Road, south on Studebaker Road.
3. Route 462 - Telegraph Road east to Norwalk Boulevard, south on Norwalk Boulevard.
4. Route 275 - Painter Avenue south to Carmenita Road, south on Carmenita Road to Leffingwell Road, east on Leffingwell Road to Valley View Avenue, south on Valley View Avenue to Rosecrans Avenue, west on Rosecrans Avenue to Carmenita Road, south on Carmenita Road.



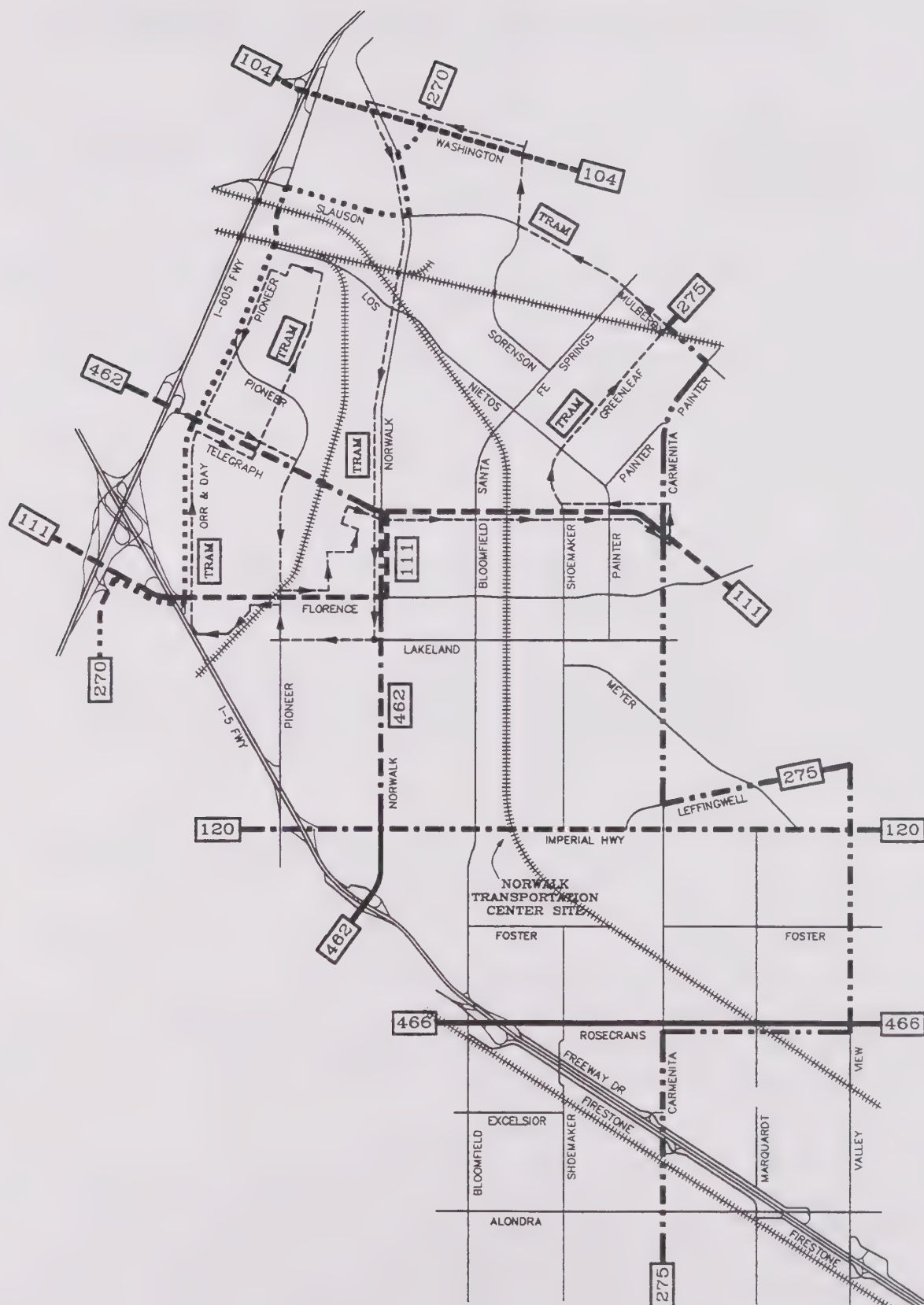




## BUILDOUT CIRCULATION SYSTEM (CURRENT GENERAL PLAN)







## EXISTING TRANSIT ROUTES







There is also free of charge to residents, a City-sponsored tram service under contract with Norwalk's Municipal Bus System which features stops at the Civic Center and Santa Fe Springs Mall. This tram operates from 7:00 a.m. to 7:00 p.m. Monday through Friday excluding holidays and weekends starting approximately on the hour near Norwalk Boulevard and Lakeland Road.

Another notable alternative to automobile travel is rail transportation. The City of Norwalk is constructing a Norwalk/Santa Fe Springs Transportation Center, which is along the path of the Metro Link line. This Transportation Center would be located immediately south and west of the City of Santa Fe Springs city limits along Imperial Highway and the Atchison, Topeka and Santa Fe Railroad Line. This would provide future regional travel service to Orange County and downtown Los Angeles to as far as the City of Oceanside in San Diego County according to current plans.

### **E. Bikeways and Bikeway Plan**

The existing network of bicycle routes in the City of Santa Fe Springs is illustrated in Figure 13. A description of typical bikeway classifications is summarized in Table 5.

A Class I off-road bike path is currently constructed along the San Gabriel River Channel which is just west of the I-605 Freeway. The bikeway on the city streets does not have designated bike lanes, and is therefore shown as a Class III bikeway. It serves four City parks, Los Nietos Park, Little Lake Park, Lake Center Athletic Park and Santa Fe Springs Park, and runs near the Civic Center.

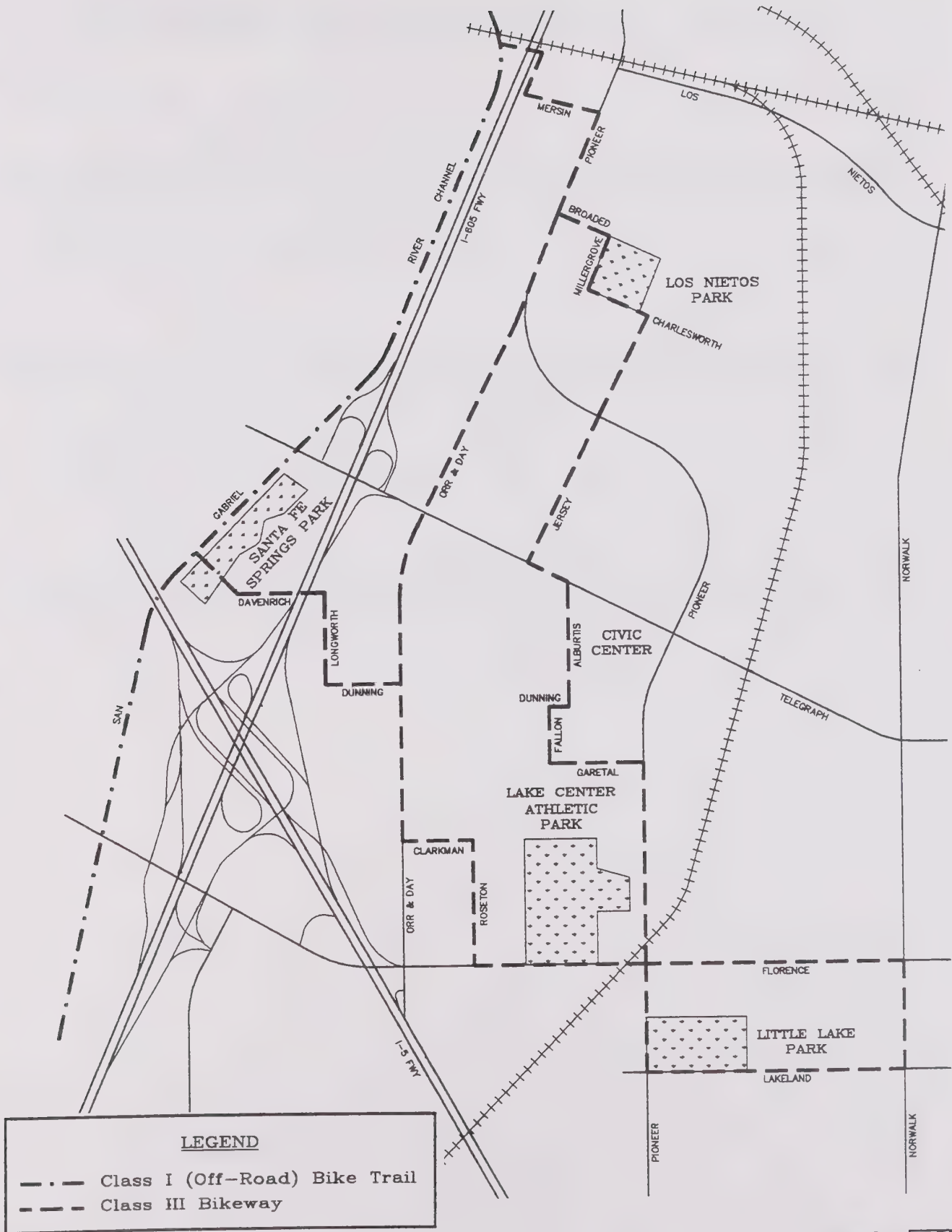
Access to the San Gabriel River Channel Bike Trail can be reached via Santa Fe Springs Park near Davenrich Street and also Mersin Place near Pioneer Boulevard.

### **F. Railroad Lines**

Three railroad lines traverse the City of Santa Fe Springs: two Southern Pacific Corridors and one Santa Fe Rail Corridor (see Figure 14). Because of its regional location and proximity to major transportation corridors including rail, the City of Santa Fe Springs development has been predominantly as an industrial community. Rail transportation has served an important role in that regard.

The most heavily used is the Atchison, Topeka and Santa Fe (AT&SF)/AMTRAK Railroad mainline which runs through the City north/south. The daily total of trains that use this line is 35. More than half this number run at least 50 miles per hour. Undercrossings at Carmenita Road, Florence Avenue, Imperial Highway, Telegraph Road, and Santa Fe Springs Road have been helpful in an effective circulation system within the City, eliminating delays and safety hazards associated with at-grade railroad crossings.





## EXISTING BIKEWAYS AND BIKEWAY PLAN







**TABLE 5**  
**BIKEWAY CLASSIFICATION DESCRIPTIONS**

**CLASS I BIKE PATH OR BIKE TRAIL**

Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians; crossflows with motorized vehicles minimize.

Sizing: Minimum width for Class I (two-way) is eight feet. Desirable width is 10-12 feet. Minimum shoulder width of two feet each side.

Minimum width for Class I (one-way) is five feet. Minimum shoulder width of two feet each side.

**CLASS II BIKE LANE**

Provides a restricted right-of-way on a roadway's shoulder designated for the exclusive or semi-exclusive use of bicycles with thru travel by motor vehicles or pedestrians prohibited; vehicle parking and crossflows by pedestrians and motorists permitted. Vehicle parking in a Class II bike lane is not desirable and should be discouraged and/or restricted where possible. Additional lane width (12 feet minimum and 13 feet desirable) shall be required if on-street parking is permitted.

Sizing: Typical width of eight feet. A reduction in width to allow for restripping of an existing roadway or for added turning lanes may be permitted. In such cases, a five foot width, or gutter width plus three feet, whichever is greater, is the minimum width.

**CLASS III BIKEWAY**

Provides for shared use of roadway facilities. These bikeways share the street with motor vehicles or share the sidewalk with pedestrians. In both of these conditions, bicycle use is a secondary function of the pavement.





# RAILROAD LINES







## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **4.2.2 Environmental Impacts and Mitigation Measures**

#### **A. Land Use and Trip Generation**

New land uses in the City are projected to occur primarily in three special study areas (see Figure 15). A land use and trip generation summary for these study areas is given in Table 6. The total ADT trip generation for each of the two scenarios is similar (around 50,000 ADT) and the difference is related to the location of a proposed golf course. In Scenario 1, the golf course is located in Area I, and in Scenario 2 it is located in Area III.

For the traffic forecasts used in this General Plan traffic analysis, the land use data for the special study areas has been used in conjunction with ambient growth for the remainder of the City. The latter accounts for future development occurring on currently vacant or underutilized parcels, and represents a five percent increase in trip generation. A summary of the combined increase in trip generation is provided below:

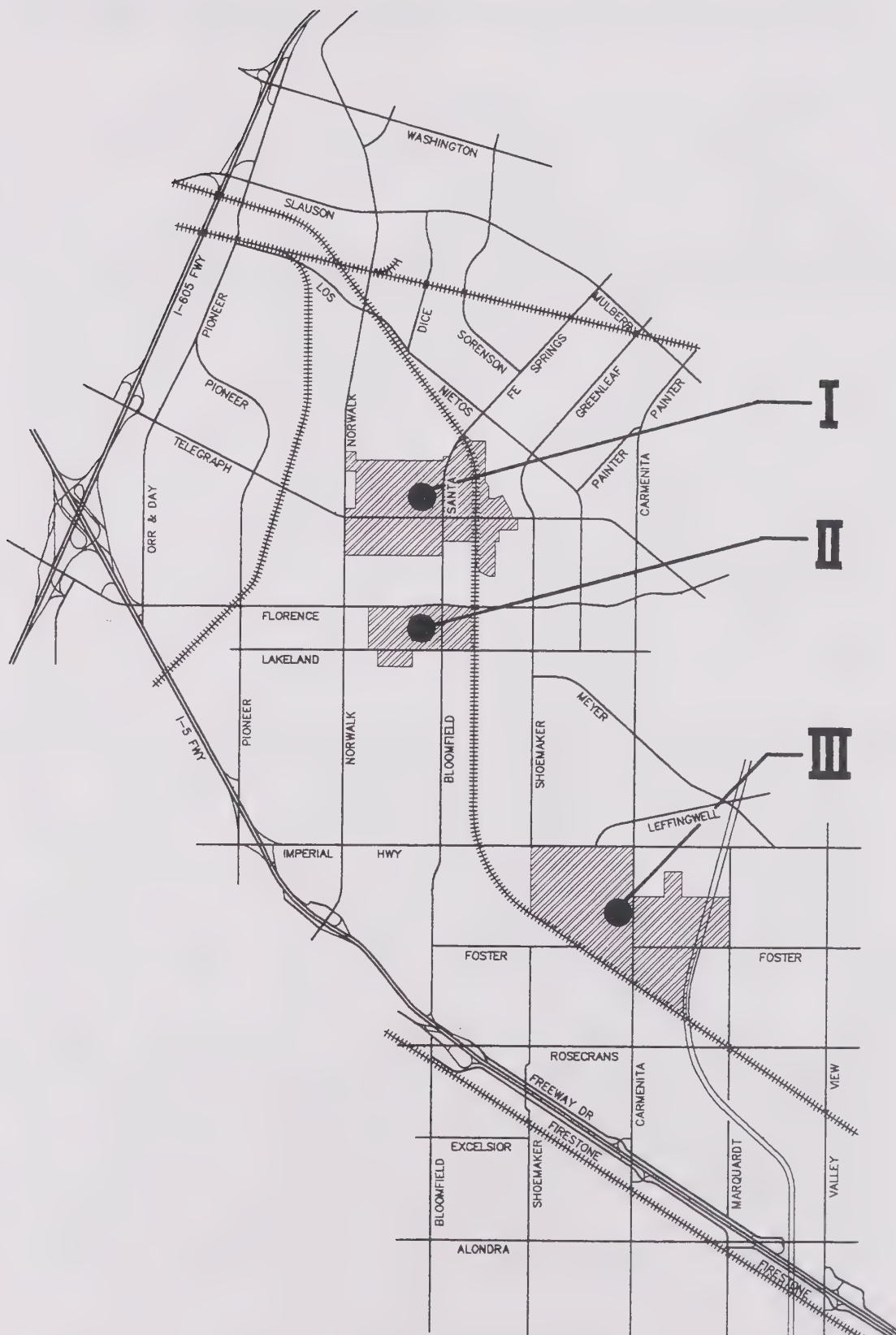
<b>INCREASE IN TRIP GENERATION</b>			
	<b>Existing</b>	<b>Future</b>	<b>Increase (%)</b>
<b>Special Study Area (Scenario 1)</b>	<b>10,152</b>	<b>49,912</b>	<b>39,760 (392%)</b>
<b>Remainder of City</b>	<b>423,370</b>	<b>444,539</b>	<b>21,169 (5%)</b>
<b>TOTAL</b>	<b>433,522</b>	<b>494,451</b>	<b>60,929</b>

Hence, the overall increase represents around 14 percent additional traffic on the roadway system.

#### **B. Proposed Circulation Element Arterial Highway System**

To accommodate the estimated future traffic on the arterial highway system, some changes are proposed to the current highway plan presented earlier. The proposed arterial highway system includes the three basic facility types, and the standard cross-sections are to be retained as the desirable standards for each facility. To better respond to specific situations on individual arterials, a special qualifier referred to as "enhanced intersection" is recommended for formal inclusion into the highway component of the Circulation Element. This would enable certain intersections to be improved beyond their standard lane configurations and hence provide the needed capacity.





## SPECIAL STUDY AREAS







**TABLE 6**  
**SPECIAL STUDY AREA LAND USE TRIP GENERATION**

Special Study Area	Land Use Type	Units	AM Peak Hour			PM Peak Hour			ADT	
			In	Out	Total	In	Out	Total		
SCENARIO 1										
1	5. Light Industrial	487.87 TSF	371	78	449	59	420	479	3,400	
	39. Business Park	487.88 TSF	673	117	790	161	561	722	7,011	
	40. Golf Course	130.00 Acre	29	7	36	10	40	50	1,083	
	Subtotal		1,073	202	1,275	230	1,021	1,251	11,494	
2	5. Light Industrial	1,173.94 TSF	892	188	1,080	141	1,010	1,151	8,182	
	Subtotal		892	188	1,080	141	1,010	1,151	8,182	
3	5. Light Industrial	2,546.09 TSF	1,935	407	2,342	306	2,190	2,496	17,746	
	39. Business Park	869.02 TSF	1,199	209	1,408	287	999	1,286	12,488	
	Subtotal		3,134	616	3,750	593	3,189	3,782	30,234	
SPECIAL STUDY AREAS TOTAL										
	5. Light Industrial	4,207.90 TSF	3,198	674	3,872	505	3,629	4,125	29,330	
	39. Business Park	1,356.90 TSF	1,872	326	2,198	447	1,559	2,006	19,499	
	40. Golf Course	130.00 Acre	28	6	34	10	40	50	1,083	
	TOTAL		5,098	1,006	6,104	962	5,219	6,181	49,912	
SCENARIO 2										
1	5. Light Industrial	1,966.74 TSF	1,495	315	1,810	236	1,691	1,927	13,708	
	39. Business Park	975.74 TSF	1,347	234	1,581	322	1,122	1,444	14,021	
	Subtotal		2,842	549	3,391	558	2,813	3,371	27,729	
2	5. Light Industrial	1,173.94 TSF	892	188	1,080	141	1,010	1,151	8,182	
	Subtotal		892	188	1,080	141	1,010	1,151	8,182	
3	5. Light Industrial	838.53 TSF	637	134	771	101	721	822	5,845	
	39. Business Park	411.64 TSF	568	99	667	136	473	609	5,915	
	40. Golf Course	142.00 Acre	31	7	38	11	44	55	1,183	
	Subtotal		1,236	240	1,476	248	1,238	1,486	12,943	
SPECIAL STUDY AREAS TOTAL										
	5. Light Industrial	3,979.21 TSF	3,025	635	3,660	478	3,421	3,899	27,735	
	39. Business Park	1,387.38 TSF	1,913	333	2,246	456	1,595	2,051	19,936	
	40. Golf Course	142.00 Acre	30	8	38	12	43	55	1,184	
	TOTAL		4,968	976	5,944	946	5,059	6,005	48,855	
Notes: 1. TSF - Thousand square feet of building floor area. 2. Refer to Figure III-1 for special study area locations.										

## 4 ENVIRONMENTAL IMPACT ANALYSIS

The highway network proposed for the Circulation Element is illustrated in Figure 16. Shown here are the major arterials and secondary arterials. Changes from existing conditions are summarized as follows:

LINK	EXISTING CIRCULATION ELEMENT	PROPOSED CIRCULATION ELEMENT
Florence Avenue Studebaker to Bloomfield	Four-lane Major	Six-lane Major
Rosecrans Avenue Shoemaker to Valley View	Four-lane Major	Six-lane Major
Imperial Highway Carmenita to Marquardt	Four-lane Major	Six-lane Major
Shoemaker Avenue Imperial Highway to Foster	Four-lane Secondary	Delete

Foster Road is not proposed for addition to the Circulation Element at this time. A connection between Shoemaker Avenue and Carmenita Road would require a grade-separated crossing of the railroad and the feasibility of this crossing would require investigation prior to adding this roadway to the Circulation Element.

### **IMPACT: INCREASE IN TRAFFIC VOLUMES**

**Impact Analysis:** Average daily traffic (ADT) volumes on the analysis area circulation system were estimated for the Proposed General Plan land uses with Special Study Area Scenarios 1 and 2. These are illustrated in Figures 17 and 18 together with the corresponding volume/capacity (V/C) ratios. Referred to as "Future" volumes, they are based on full buildout of the City of Santa Fe Springs General Plan.

The ADT Levels of Service for the forecast volumes are summarized in Table 7. Also shown here are locations where the performance criteria are not met. It should be noted that the circulation system depicted here has no improvements beyond existing conditions. Thus, the V/C ratios represent a worst case scenario. Peak hour intersection capacity utilization (ICU) values are listed in Table 8. Also shown here are locations where the performance criteria thresholds are exceeded.

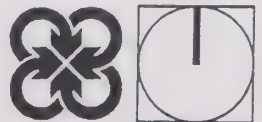




## PROPOSED ARTERIAL HIGHWAY SYSTEM

The Planning Center

Santa Fe Springs General Plan Update Environmental Impact Report  
Figure 16

















**TABLE 7**  
**FUTURE LEVELS OF SERVICE - ADT LINK VOLUMES**  
 (Alphabetically by street then from North-South, West-East)

Roadway Segment	Capacity	Scenario 1			Scenario 2		
		Vol	V/C	LOS	Vol	V/C	LOS
Alondra E/O Shoemaker	38	22	.58	A	22	.58	A
Alondra E/O Carmenita	38	21	.55	A	21	.55	A
Alondra W/O Valley View	38	27	.71	C	27	.71	C
Bloomfield N/O Florence	38	15	.39	A	16	.42	A
Bloomfield N/O Imperial	38	14	.37	A	14	.37	A
Carmenita S/O Imperial Hwy	38	33	.87	D	29	.76	C
Carmenita N/O Rosecrans	38	33	.87	D	29	.76	C
Carmenita N/O Alondra	38	33	.58	A	22	.58	A
Florence E/O Studebaker	38	44	1.16	F*	46	1.21	F*
Florence W/O Pioneer	38	54	1.42	F*	56	1.47	F*
Florence E/O Pioneer	38	39	1.03	F*	42	1.11	F*
Florence E/O Norwalk	38	34	.89	D	35	.92	E*
Florence E/O Bloomfield	38	32	.84	D	32	.84	D
Florence W/O Carmenita	38	25	.66	B	25	.66	B
Greenleaf N/O Los Nietos	30	9	.30	A	9	.30	A
Imperial Hwy E/O Norwalk	57	49	.86	D	42	.74	C
Imperial Hwy W/O Shoemaker	57	50	.88	D	43	.75	C
Lakeland W/O Bloomfield	15	6	.40	A	6	.40	A
Los Nietos W/O Norwalk	30	7	.23	A	7	.23	A
Los Nietos W/O Santa Fe Springs	15	13	.87	D*	13	.87	D*
Los Nietos W/O Painter	30	12	.40	A	12	.40	A
Marquardt N/O Rosecrans	19	8	.42	A	8	.42	A
Marquardt S/O Rosecrans	38	5	.13	A	5	.13	A
Marquardt N/O I-5	38	2	.05	A	2	.05	A
Norwalk N/O Slauson	38	21	.55	A	22	.58	A
Norwalk S/O Los Nietos	38	20	.53	A	22	.58	A
Norwalk N/O Florence	38	20	.53	A	25	.66	B
Orr & Day N/O Telegraph	38	11	.29	A	11	.29	A
Orr & Day N/O Florence	38	16	.42	A	16	.42	A

**TABLE 7**  
**FUTURE LEVELS OF SERVICE - ADT LINK VOLUMES**  
 (Alphabetically by street then from North-South, West-East)

Roadway Segment	Capacity	Scenario 1			Scenario 2		
		Vol	V/C	LOS	Vol	V/C	LOS
Painter N/O Florence	15	6	.40	A	6	.40	A
Pioneer N/O Los Nietos	38	13	.34	A	13	.34	A
Pioneer N/O Telegraph	38	7	.18	A	7	.18	A
Pioneer N/O Florence	38	13	.34	A	13	.34	A
Rosecrans W/O Carmenita	38	35	.92	E*	35	.92	D
Rosecrans W/O Valley View	38	28	.74	C	28	.74	C
Rosecrans E/O Valley View	38	24	.63	B	24	.63	B
Santa Fe Springs N/O Los Nietos	38	17	.45	A	18	.47	A
Santa Fe Springs N/O Telegraph	38	15	.39	A	16	.42	A
Shoemaker N/O Florence	30	11	.37	A	11	.37	A
Shoemaker N/O Imperial Hwy	15	9	.60	A	9	.60	A
Slauson W/O Sorenson	38	33	.87	D	33	.87	D
Sorenson S/O Washington	38	16	.42	A	16	.42	A
Sorenson S/O Slauson	30	7	.23	A	7	.23	A
Telegraph W/O Orr & Day	57	56	.98	E	58	1.02	F*
Telegraph W/O Pioneer	57	46	.81	D	48	.84	D
Telegraph E/O Pioneer	57	45	.79	C	47	.82	D
Telegraph W/O Painter	57	29	.51	A	31	.54	A
Telegraph E/O Carmenita	57	34	.60	A	35	.61	B
Valley View S/O Rosecrans	38	26	.68	B	26	.68	B
Valley View N/O Alondra	38	34	.89	D	34	.89	D
Washington E/O Norwalk	38	46	1.21	F*	46	1.21	F*
Washington W/O Sorenson	38	42	1.11	F*	41	1.08	F*
Washington E/O Sorenson	38	41	1.08	F*	41	1.08	F*

\* Indicates performance standard exceeded

Note: All numbers are in thousands



TABLE 8  
ICU SUMMARY

Intersection		Existing		Scenario 1		Scenario 2	
		AM	PM	AM	PM	AM	PM
1	I-605 SB Ramps and Telegraph	.87	.83	.95*	.94*	.93*	1.06*
2	I-605 NB/Bartley and Telegraph	.84	.69	.86	.78	.87	.84
3	Orr & Day and Telegraph	.67	.70	.70	.77	.71	.84
4	Orr & Day and Florence	.71	.77	.75	.93*	.89	.99*
5	Jersey and Telegraph	.60	.62	.63	.69	.64	.76
6	Alburtis and Telegraph	.64	.58	.64	.64	.65	.71
7	Pioneer and Los Nietos	.45	.48	.47	.52	.48	.52
8	Pioneer and Telegraph	.65	.67	.67	.69	.68	.76
9	Pioneer and Florence	.76	.77	.84	.88	.97*	.92*
10	Geary and Telegraph	.53	.53	.54	.56	.56	.60
11	Norwalk and Washington	1.03*	.93*	1.05*	.97*	1.07*	1.01*
12	Norwalk and Los Nietos	.50	.53	.59	.63	.60	.69
13	Norwalk and Telegraph	.81	.82	.86	.92*	.99*	1.13*
14	Norwalk and Florence	.82	.89	.94*	1.02*	1.29*	1.15*
15	Dice and Slauson	.54	.55	.55	.56	.55	.56
16	Sorenson and Slauson	.84	.76	.86	.80	.86	.80
17	Santa Fe Springs and Los Nietos	.76	.68	.80	.77	.80	.78
18	Santa Fe Springs and Telegraph	.78	.68	.84	.82	.89	.87
19	Bloomfield and Florence	.69	.71	.89	.94*	.91*	.96*
20	Bloomfield and Lakeland	.44	.38	.53	.47	.54	.48
21	Bloomfield and Imperial Hwy	.79	.73	.92*	.89	.90	.81
22	Greenleaf and Los Nietos	.81	.69	.83	.73	.83	.73
23	Greenleaf and Telegraph	.58	.58	.62	.61	.66	.66
24	Shoemaker and Florence	.67	.72	.73	.79	.77	.81
25	Shoemaker and Lakeland	.38	.42	.40	.44	.41	.45
26	Shoemaker and Imperial Hwy	.87	.61	.94*	.99*	.89	.72
27	Painter and Los Nietos	.39	.34	.41	.36	.40	.36
28	Painter and Telegraph	.74	.78	.77	.84	.81	.90
29	Painter and Florence	.65	.61	.70	.67	.72	.67
30	Carmenita and Telegraph	.76	.92*	.88	1.02*	.90	1.04*
31	Carmenita and Florence	.71	.89	.83	1.04*	.84	1.00*
32	Carmenita and Imperial Hwy	.85	.96*	1.30*	1.38*	.93*	1.08*
33	Carmenita and Foster	.91*	.82	1.36*	1.31*	1.08*	1.11*



## 4 ENVIRONMENTAL IMPACT ANALYSIS

**TABLE 8  
ICU SUMMARY**

Intersection		Existing		Scenario 1		Scenario 2	
		AM	PM	AM	PM	AM	PM
34	Carmenita and Firestone/I-5 SB Ramps	.93*	.62	1.06*	1.03*	1.01*	.81
35	Carmenita and Alondra	.66	.65	.71	.69	.69	.68
36	Marquardt and Imperial Hwy	.46	.67	.61	.83	.51	.73
37	Marquardt and Rosecrans	.62	.60	.69	.67	.68	.67
38	Marquardt/Firestone and Alondra	.80	.78	.83	.79	.82	.79
39	I-5 NB Ramps and Alondra	.62	.72	.63	.73	.63	.73
40	Valley View and Alondra	1.02*	.98*	1.05*	1.02*	1.05*	1.02*
41	Carmenita and Excelsior/I-5 NB Ramps	.85	.89	1.30*	1.44*	1.05*	1.15*
42	I-5 SB Ramps and Firestone	.52	.60	.55	.98*	.55	.77
<p>Level of Service ranges: .00 - .60 A                                    .61 - .70 B                                    .71 - .80 C                                    .81 - .90 D                                    .91 - 1.00 E                                    Above 1.00 F</p> <p>* Exceeds Level of Service "D"</p>							

## 4 **ENVIRONMENTAL IMPACT ANALYSIS**

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Improvements needed to implement the desired circulation system are identified in Table 9. This table lists improvements needed for arterials, intersections and three special improvement areas where the improvements involve the participation of other agencies, such as Caltrans.

Table 10 shows the ICUs resulting from the identified improvements. Table 11 shows future ICUs for all intersections in the City that were studied in this analysis. The ICUs listed here include the improvements noted in this section, plus a Transportation Demand Management (TDM) peak hour trip reduction of 10 percent. This is in response to South Coast Air Quality Management District regulations and Circulation Goal #3 regarding TDM. The combined mitigation program and TDM actions are sufficient to accommodate the proposed land uses and achieve the roadway performance criteria.

***Policies Included in General Plan:*** The Circulation Element of the General Plan contains the following policies relevant to this issue.

- 1.1 Development and maintain a circulation system that is based upon and is in balance with the Land Use Element of the General Plan.
- 1.2 Maintain and implement circulation system standards for roadway and intersection classifications, right-of-way width, pavement width, design speed, capacity and associated features such as landscaping buffers and building setback requirements.
- 1.3 Coordinate roadway improvements with applicable regional, state and federal transportation plans and proposals.
- 1.4 On a regular basis, identify, monitor and make recommendations for improvements to roadways and intersections that are approaching, or have approached, unacceptable levels of service or experiencing higher than expected accident rates.
- 1.6 Limit driveway access on arterial streets to maintain a desired quality of flow.
- 1.7 Design local and collector streets to discourage their use as through routes.
- 1.8 Require that proposals for major new developments include a future traffic impact analysis which identifies measures to mitigate any identified project impacts, and adhere to the City's Congestion Management Plan.
- 2.1 Maintain a proactive and assertive role with appropriate agencies dealing with regional transportation issues affecting the City.

**TABLE 9  
ROAD IMPROVEMENTS**

LOCATION	IMPROVEMENT	ALTERNATIVE BOGC	
ARTERIALS			
Florence E/O Studebaker	Stripe to Six Lanes	Yes	Yes
Florence W/O Pioneer	Stripe to Six Lanes	Yes	Yes
Florence E/O Pioneer	Stripe to Six Lanes	Yes	Yes
Florence E/O Norwalk	Stripe to Six Lanes	Yes	Yes
Rosecrans W/O Carmenita	Stripe to Six Lanes	Yes	Yes
INTERSECTIONS			
4. Orr & Day & Florence	3rd EBT, 3rd WBT	Yes	Yes
9. Pioneer & Florence	3rd EBT, 3rd WBT	Yes	Yes
11. Norwalk & Washington	3rd WBT	Yes	Yes
13. Norwalk & Telegraph	2nd NBL, 2nd WBL	Yes	Yes
14. Norwalk & Florence	SBR, 2nd EBL*, 3rd EBT, 3rd WBT	Yes	Yes
19. Bloomfield & Florence		Yes	Yes
26. Shoemaker & Imperial Hwy	2nd EBL, 3rd WBT	Yes	Yes
30. Carmenita & Telegraph	3rd WBT	Yes	Yes
31. Carmenita & Florence	2nd NBL, 3rd EBT	Yes	Yes
32. Carmenita & Imperial Hwy	3rd EBT	Yes	Yes
	2nd NBL, EBR		
SPECIAL TRANSPORTATION IMPROVEMENT AREAS			
1) I-605/Telegraph			
1. I-605 SB Ramps & Telegraph	WB free-right	Yes	Yes
2) I-5/Carmenita/Firestone			
Carmenita at I-5	Widen overcrossing to four-lanes	Yes	Yes
34. Carmenita & Firestone/I-5 SB Ramps	2nd SBL	Yes	Yes
41. Carmenita & Excelsior/I-5 NB Ramps	2nd SBT, 2nd WBL	Yes	Yes
3) I-5/Valley View/Alondra			
40. Valley View & Alondra	2nd EBL, 2nd WBL	Yes	Yes
BO Buildout GC Golf Course * Mitigation for Buildout alternative only  Note: Refer to Figure 15 for areas depicted			

**TABLE 10**  
**ICV SUMMARY WITH IMPROVEMENTS**

ADT LINK LOCATION	EXISTING	BUILDOUT		GOLF COURSE	
		W/O MIT	W/ MIT	ALTERNATIVE W/O MIT	W/ MIT
Florence E/O Studebaker	1.05	1.21	.81	1.16	.77
Florence W/O Pioneer	1.26	1.47	.98	1.42	.95
Florence E/O Pioneer	.89	1.11	.74	1.03	.68
Florence E/O Norwalk	.79	.92	.61	.89	NM
Los Nietos W/O Santa Fe Springs	.73	.87	I	.87	I
	.87	.92	.61	.92	.61
Rosecrans W/O Carmenita	.93	1.02	S	.98	S
Telegraph W/O Orr and Day	1.08	1.11	I	1.11	I
Washington W/O Sorenson					



**TABLE 10**  
**ICV SUMMARY WITH IMPROVEMENTS**

INTERSECTION LOCATION	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. I-605 SB Ramps & Telegraph	.87 .71	.83 .77	.96 .89	1.0 8	.96 .67	.72 .78	.95 .75	.94 .93	.95 .60	.6 9
4. Orr & Day & Florence	.76	.77	.97	.99	.74	.74	.84	.88	NM	.7
9. Pioneer & Florence	1.03	.93	1.0	.93	.86	.90	1.05.8	.97	.84	4
11. Norwalk & Washington	.81	.82	7	1.0	.99	.93	6	.92	.86	N
13. Norwalk & Telegraph			.99	1						M
	.82	.89		1.1	.93	.89	.94	1.0	.80	.8
14. Norwalk & Florence	.69	.71	1.2	3	.71	.96	.89	2	.70	6
19. Bloomfield & Florence	.87	.61	9		.70	.76	.94	.94	.70	.8
26. Shoemaker & Imperial Hwy	.76 .71	.92 .89	.92 .94	1.1 5	.84 .88	.90 .89	.88 .83	.99 1.0	.79 .83	0
30. Carmenita & Telegraph			.93	.96				2		.8
31. Carmenita & Florence	.71	.81	.88	.99	.94	.91	1.12	1.0	.94	0
	.93	.62		1.0	.96	.79	1.06	4	.96	.9
32. Carmenita & Imperial Hwy	1.02 .85	.98 .89	1.1 1	7 1.0	.98 .76	.96 .85	1.05 1.30		.98 .75	4 .7
34. Carmenita & Firestone/I- 5 SB Ramps			1.0 7	5				4 1.0		6 .8
40. Valley View & Alondra			1.0	1.1				3		7
41. Carmenita & Excelsior/I- 5 NB Ramps			5 1.3 1	5 1.0 3				1.0 2 1.4 4		.8 9 .9 0 .7 8 .9 6 .8 6
NM No mitigation needed S Special Transportation Improvement Area I Intersection-related capacity augmentation										

**TABLE 11**  
**ICU SUMMARY WITH MITIGATION & TDM**

INTERSECTION	BUILDOUT		GOLF COURSE ALTERNATIVE	
	AM	PM	AM	PM
1. I-605 SB Ramps & Telegraph	.87	.66	.87	.63
2. I-605 NB/Bartley & Telegraph	.80	.77	.79	.71
3. Orr & Day & Telegraph	.65	.76	.64	.69
4. Orr & Day & Florence	.60	.71	.55	.67
5. Jersey & Telegraph	.59	.68	.58	.62
6. Alburdis & Telegraph	.60	.64	.59	.58
7. Pioneer & Los Nietos	.43	.47	.43	.47
8. Pioneer & Telegraph	.63	.69	.62	.64
9. Pioneer & Florence	.68	.67	.76	.79
10. Geary & Telegraph	.51	.54	.50	.51
11. Norwalk & Washington	.77	.82	.75	.78
12. Norwalk & Los Nietos	.54	.62	.54	.56
13. Norwalk & Telegraph	.90	.85	.78	.73
14. Norwalk & Florence	.85	.81	.72	.73
15. Dice & Slauson	.50	.51	.50	.51
16. Sorenson & Slauson	.79	.73	.79	.73
17. Sta Fe Springs & Los Nietos	.73	.72	.73	.70
18. Santa Fe Springs & Telegraph	.79	.79	.75	.74
19. Bloomfield & Florence	.65	.86	.64	.86
20. Bloomfield & Lakeland	.50	.45	.49	.44
21. Bloomfield & Imperial Hwy	.87	.82	.84	.81
22. Greenleaf & Los Nietos	.76	.67	.76	.67
23. Greenleaf & Telegraph	.59	.60	.55	.56
24. Shoemaker & Florence	.70	.73	.67	.73
25. Shoemaker & Lakeland	.38	.41	.37	.41
26. Shoemaker & Imperial Hwy	.63	.68	.64	.68
27. Painter & Los Nietos	.36	.32	.36	.32
28. Painter & Telegraph	.73	.82	.70	.76
29. Painter & Florence	.64	.62	.62	.61
30. Carmenita & Telegraph	.76	.81	.73	.78
31. Carmenita & Florence	.79	.81	.75	.79
32. Carmenita & Imperial Hwy	.86	.83	.86	.83
33. Carmenita & Foster	.74	.62	.74	.62
34. Carmenita & Firestone/I-5 SB Ramps	.88	.71	.87	.71
35. Carmenita & Alondra	.66	.62	.66	.62
36. Marquardt & Imperial Hwy	.56	.75	.56	.75
37. Marquardt & Rosecranz	.63	.61	.62	.61
38. Marquardt & Alondra	.74	.72	.74	.72
39. I-5 NB Ramps & Alondra	.57	.66	.57	.66
40. Valley View & Alondra	.88	.87	.88	.87

**TABLE 11  
ICU SUMMARY WITH MITIGATION & TDM**

INTERSECTION	BUILDOUT		GOLF COURSE ALTERNATIVE	
	AM	PM	AM	PM
41. Carmenita & Excelsior/I-5 NB Ramps	.68	.77	.68	.77
42. I-5 SB Ramps & Firestone	.50	.90	.50	.90

Note: Successful implementation of TDM represents a 10 percent reduction in volumes.

- 2.2 Work with adjacent cities to ensure that the traffic impacts of development projects in these cities do not adversely impact the City of Santa Fe Springs.
- 2.3 Monitor and coordinate with Caltrans freeway work as it affects Santa Fe Springs' roadways and businesses, and require modifications as necessary.
- 2.4 Require that proposals for major new developments include a future traffic impact analysis which adheres to the City's Congestion Management Plan.
- 8.1 Maintain a citywide level of service (LOS) not exceeding LOS "D" for intersections during the peak hours, with the exception of the intersections of the I-605 on/off ramps at Telegraph Road, Valley View Avenue and Alondra Boulevard, Norwalk Boulevard and Washington, and other locations where the City determines an exception is warranted.
- 8.2 Maintain a citywide level of service (LOS) for links not to exceed LOS "C" for Secondary arterials and Local streets, and not to exceed LOS "D" for Major arterials. Exceptions to this are regional facilities such as Telegraph Road, and where intersection capacities are such that higher link volumes can prevail without capacity deficiencies occurring ("augmented capacity" roadways).
- 8.3 Identify and improve roadways and intersections that are approaching, or have approached, unacceptable levels of service.
- 8.4 Ensure that the location, intensity and timing of development is consistent with the provision of adequate transportation infrastructure and standards.
- 8.5 Require new development projects to mitigate off-site traffic impacts to the maximum extent feasible.
- 8.6 Require the driveway access points onto arterial roadways be limited in number and location in order to ensure the smooth and safe flow of vehicle and bicycles.
- 8.7 Require new development to install traffic signals at intersections or arterials which, based on individual study, are shown to satisfy traffic signal warrants.



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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Policies related to transportation demand management and public transportation are identified in Section 4.3, Air Quality.

***Additional Mitigation Measures Required:***

4.2-1 Table 9 identifies the specific roadway improvements needed to accomplish the Circulation Element under the two land use alternatives. These improvements shall be implemented as funding allows through appropriate City program (capital improvement programming, development approvals, etc).

***Level of Significance After Mitigation:*** Less than significant.

***IMPACT: CONFLICTS WITH AT-GRADE RAILROAD CROSSINGS***

***Impact Analysis:*** Certain arterials currently have at-grade crossings of the railroads, and would achieve both safety and capacity benefits from future grade separation. Arterials that would benefit from grade separations are Florence Avenue and Valley View Avenue.

***Policies Included in General Plan:*** None.

***Additional Mitigation Measures Required:***

4.2-2 The City should consider adding these grade separations to the list of improvements identified in Table 9.

***Level of Significance After Mitigation:*** Less than significant.



### **4.3 Air Quality**

#### **4.3.1 Environmental Setting**

##### **A. Regional Air Quality**

The project site is within the South Coast Air Basin (SCAB), which includes Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties. Air quality conditions in the SCAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB does not attain the state and federal standards for four of the six criteria air pollutants. The basin is in compliance with the federal sulfur dioxide and lead standards, but the ambient carbon monoxide, ozone and particulate levels (PM<sub>10</sub>) reach twice the standards. In addition, the SCAB is the only area in the country that does not attain the federal nitrogen dioxide standard. These air contaminants exceed the more stringent state standards by an even higher margin.

##### **B. Climate/Meteorology**

The climate of the South Coast Air Basin is determined by its terrain and geographical location. The air basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border and high mountains surround the rest of the basin. The region lies in the semipermanent high pressure zone of the eastern Pacific. The resulting climate is mild, tempered by cool ocean breezes. This mild climatological pattern is rarely interrupted, however, there do exist periods of extremely hot weather, winter storms, or Santa Ana wind conditions.

The annual average temperature varies little throughout the air basin, ranging from the low to the middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, the coastal areas show less variability in annual minimum and maximum temperatures than the inland areas. The climatological station nearest to the project area with complete data is in San Gabriel.<sup>1</sup> During 1992, the San Gabriel Fire Station monitored a monthly average temperature ranging from 55°F to 75°F, with an annual average temperature of 64°F. All areas in the air basin have recorded temperatures above 100°F in recent years; 104°F was recorded in San Gabriel during 1992.

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<sup>1</sup> California Climatological Data Annual Summary, 1992; National Oceanic and Atmospheric Administration.

## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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The majority of annual rainfall in the air basin occurs between the months of November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the basin and along the coastal side of the mountains. Average rainfall in the San Gabriel area varies from 4.5 inches in January to less than one inch between May and October. Moreover, monthly and yearly rainfall totals are extremely variable. At the San Gabriel Fire Station, the annual average rainfall (determined from the past 55 years) is 18 inches compared with the actual rainfall of 24 inches in 1992, and 11 inches in all of 1990.

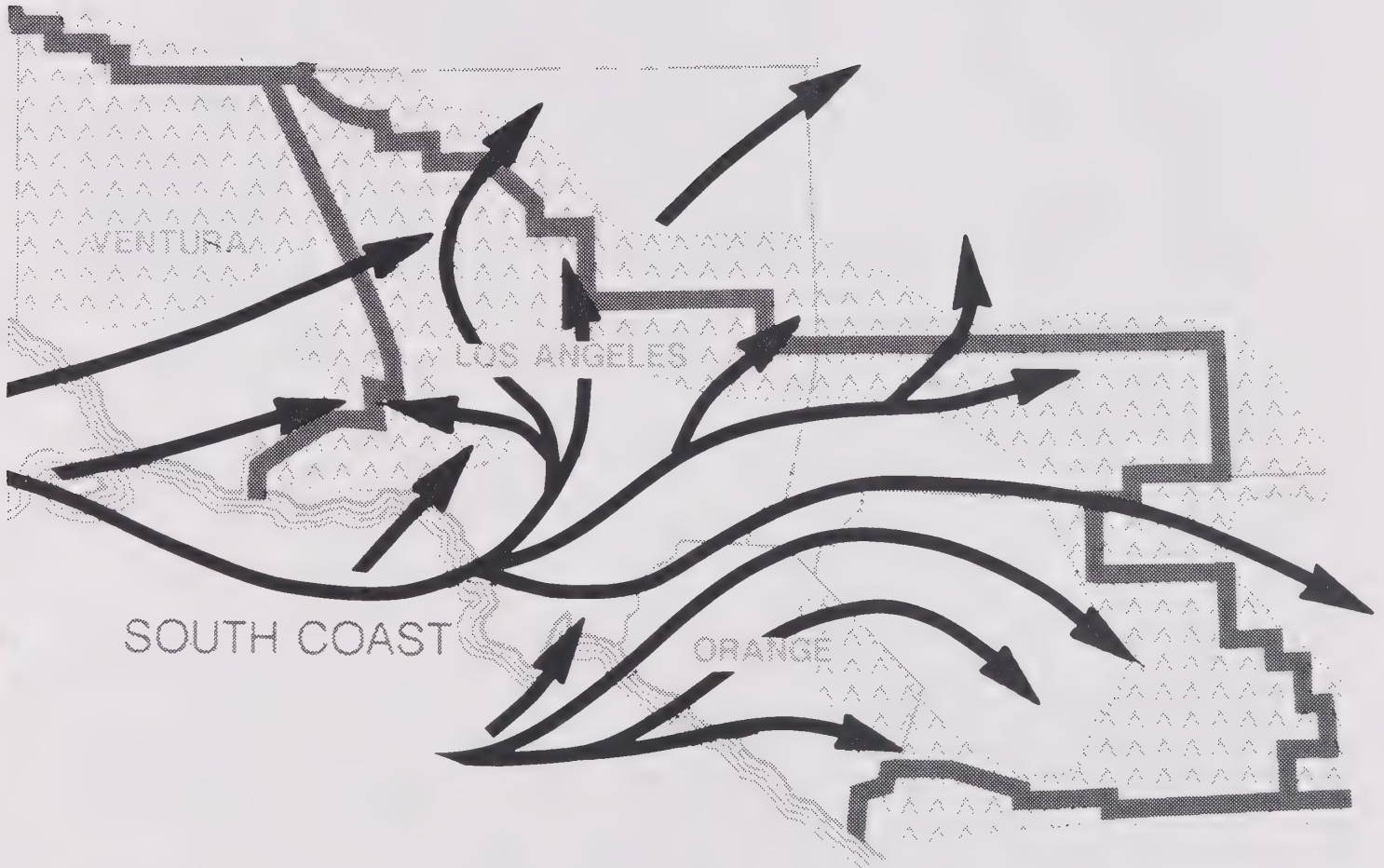
Even though the SCAB has a semi-arid climate, the air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. Downtown Los Angeles wind speed averages 5.7 miles per hour with little seasonal variation; wind speeds average slightly higher in the summertime than during the winter. Inland areas have slightly lower wind speeds than Downtown Los Angeles, while coastal wind speeds average about two miles per hour higher. The dominant daily wind pattern is an onshore daytime breeze and an offshore night-time breeze. The typical wind flow pattern fluctuates only with occasional winter storms or strong northeasterly Santa Ana winds from the mountains and deserts north of the SCAB. This summer wind flow pattern is depicted in Figure 19.

During spring and early summer, pollution produced during any one day is typically blown out of the air basin through the mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. Air contaminants can be transported sixty miles or more from the air basin by ocean air during the afternoons. From early fall to winter, the transport is less pronounced because of slower average wind speed and the appearance of drainage winds earlier in the day. During stagnant wind conditions, offshore drainage winds may begin by the late afternoon. Pollutants remaining in the air basin are trapped and begin to accumulate during the night and the following morning. A low morning wind speed in pollutant source areas is an important indicator of air stagnation and the build-up potential for primary air contaminants.

With persistent low inversions and cool coastal air, morning fog and low stratus clouds are common. However, Downtown Los Angeles is in sunshine 73% of daylight hours. This is an extremely important climatological factor considering the role of sunshine in the photochemical smog production process. Cloudy days are less likely in the eastern portions of the air basin and about twenty-five percent greater along the coast.

The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to the earth's surface. Temperature normally decreases with altitude and a reversal of this atmospheric state, where temperature increases with altitude, is called an inversion. The height from the earth to the inversion base is known as the mixing height.





## SUMMER WIND FLOW PATTERN







## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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Inversions are generally lower in the nighttime when the ground is cool than during the daylight hours when the sun warms the ground and in turn, the surface air layer. As this heating process continues, the temperature of the surface air layer approaches the temperature of the inversion base causing heating along its lower edge. If enough warming takes place, the inversion layer becomes weak and opens up to allow the surface air layers to mix upward. This can be seen in the middle to late afternoon on a hot summer day when the smog appears to clear up suddenly. Winter inversions typically break earlier in the day, preventing excessive contaminant build-up. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore through the Santa Ana Canyon, into Riverside County and San Bernardino County. In the winter, the greatest pollution problems are carbon monoxide and oxides of nitrogen because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen that forms photochemical smog.

### **C. Air Pollution Constituents**

Both the State of California and the Federal Government have established health based standards for six air pollutants. As shown in Table 12, these pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM10) and lead. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. These standards are designed to protect the health and welfare of the populous with a reasonable margin of safety.

In addition to primary and secondary air pollution standards, the State of California has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide and particulate matter (see Appendix B). These criteria refer to episode levels representing periods of short-term exposure to air pollutants which actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three.

Ozone (smog) is formed by photochemical reactions between NO<sub>x</sub> and reactive organic gases rather than being directly emitted. Ozone is a pungent, colorless gas that is typical of southern California type smog. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly and young children. Ozone levels peak during the summer and early fall months.

## 4 ENVIRONMENTAL IMPACT ANALYSIS

**TABLE 12  
AMBIENT AIR QUALITY STANDARDS**

California		Federal	
Air Pollutant	Concentration	Primary (>)	Secondary (>)
Ozone	0.09 ppm, 1-hr. avg. >	0.12 ppm, 1-hr. avg.	0.12 ppm, 1-hr. avg.
Carbon Monoxide	9.1 ppm, 8-hr. avg. > <sup>a</sup> 20 ppm, 1-hr. avg. >	9.5 ppm, 8-hr. avg. <sup>b</sup> 35 ppm, 1-hr. avg. >	9.5 ppm, 8-hr. avg. 35 ppm, 1-hr. avg. >
Nitrogen Dioxide	0.25 ppm, 1-hr. avg. > <sup>c</sup>	0.053 ppm, annual avg. <sup>d</sup>	0.053 ppm, annual avg. <sup>e</sup>
Sulfur Dioxide	0.04 ppm, 24-hr. avg. >=with ozone>=0.10 ppm, 1-hr. avg. or TSP >= 100 ug/m <sup>3</sup> , 24-hr. avg. 0.25 ppm, 1-hr. avg.> <sup>f</sup>	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.50 ppm, 3-hr. avg.
Suspended Particulate Matter (PM <sub>10</sub> )	30 ug/m <sup>3</sup> , annual geometric mean > 50 ug/m <sup>3</sup> , 24-hr. avg. > <sup>f</sup>	50 ug/m <sup>3</sup> , annual <sup>g</sup> arithmetic mean 150 ug/m <sup>3</sup> , 24-hr. avg.	50 ug/m <sup>3</sup> , annual <sup>h</sup> arithmetic mean 150 ug/m <sup>3</sup> , 24-hr. avg.
Sulfates	25 ug/m <sup>3</sup> , 24-hr. avg. >=		
Lead	1.5 ug/m <sup>3</sup> , 30-day avg. >=	1.5 ug/m <sup>3</sup> , calendar quarter	1.5 ug/m <sup>3</sup> , calendar quarter
Hydrogen Sulfide	0.03 ppm., 1-hr. avg. >=		
Vinyl Chloride	0.010 ppm, 24-hr. avg. >=		
Visibility Reducing Particles	In sufficient amount to reduce the visual range to less than 10 miles at relative humidity less than 70%, 8-hr. avg. (9am-5pm) <sup>h</sup>		

<sup>a</sup> Effective December 15, 1982. The standards were previously 10 ppm, 12-hour average and 40 ppm, 1-hour average.

<sup>b</sup> Effective September 13, 1985, standard changed from > 10 mg/m<sup>3</sup> (>= 9.3 ppm) to > 9ppm (>= 9.5 ppm).

<sup>c</sup> Effective March 9, 1987, standard changed from >= .25 ppm to > .25 ppm.

<sup>d</sup> Effective July 1, 1985, standard changed from > 100 ug/m<sup>3</sup> (> .0532 ppm) to > .053ppm (> .0534 ppm).

<sup>e</sup> Effective October 5, 1984. The standard was previously .5 ppm, 1-hour average.

<sup>f</sup> Effective August 19, 1983. The standards were previously 60 ug/m<sup>3</sup> TSP, annual geometric mean, and 100 ug/m<sup>3</sup> TSP, 24-hour average.

<sup>g</sup> Effective July 1, 1987. The standards were previously: Primary- Annual geometric mean TSP > 75 ug/m<sup>3</sup>, and a 24-hour average TSP > 260 ug/m<sup>3</sup>. Secondary- Annual geometric mean TSP > 60 ug/m<sup>3</sup>, and a 24-hour average TSP > 150 ug/m<sup>3</sup>.

<sup>h</sup> Effective October 18, 1989. The standard was previously "In sufficient amount to reduce the prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation", and was based on human observation rather than instrumental measurement.

Source: South Coast Air Quality Management District, April 1992.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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Carbon monoxide (CO) is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the blood stream where it interferes with the transfer of oxygen to body tissues.

Nitrogen oxides (NO<sub>x</sub>) contributes to other pollution problems, including high concentration of fine particulate matter, poor visibility, and acid deposition. Nitrogen dioxide decreases lung function and may reduce resistance to infection. Nitrogen dioxide, a reddish-brown gas (NO<sub>2</sub>), and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides or NO<sub>x</sub>. NO<sub>x</sub> is a primary component of the photochemical smog reaction.

Sulfur dioxide (SO<sub>2</sub>) is a colorless, irritating gas formed primarily from the incomplete combustion of sulfur containing fuels. Industrial facilities also contribute to gaseous sulfur dioxide levels in the air basin. Natural gas is low in sulfur and low-sulfur fuels are now available on the market. Sulfur dioxide irritates the respiratory tract and can injure lung tissue when combined with fine particulate matter. Sulfates reduce visibility and therefore, the level of sunlight.

Reactive Organic Gases (ROG) are formed from combustion of fuels and the evaporation of organic solvents. ROG is a prime component of the photochemical smog reaction. Consequently, ROG accumulates in the atmosphere more quickly during the winter when sunlight is limited and photochemical reactions are slower. Although ROG is difficult to measure because of the number of compounds, emissions are closely monitored to reduce resultant ozone where possible.

Particulate Matter (PM<sub>10</sub>) refers to small suspended particulate matter with an aerodynamic diameter of 10 microns or less which is not readily filtered by the lungs. Nitrates and sulfates, as well as dust particulates, are major components of PM<sub>10</sub>. These small particles can be directly emitted into the atmosphere as a by-product of fuel combustion, through abrasion, such as wear on tires or brake linings, or through fugitive dust (wind erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may carry carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.



## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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### **D. Local Air Quality**

The project site is located within Source/Receptor Area (SRA) 5, one of the thirty areas under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. The SCAQMD maintains ambient air quality monitoring stations in SRAs throughout the basin as shown in Figure 20. The Whittier air monitoring station in SRA 5 monitors four of the seven criteria pollutants: carbon monoxide, ozone, nitrogen dioxide, and sulfur dioxide.<sup>2</sup> Particulate matter (PM<sub>10</sub>) and lead levels are not monitored at this station, but will be monitored in the future if local levels of these pollutants become a concern to the SCAQMD or the CARB. Other air pollutants for which standards exist are considered local problems and are handled through the District's permitting process for stationary sources.

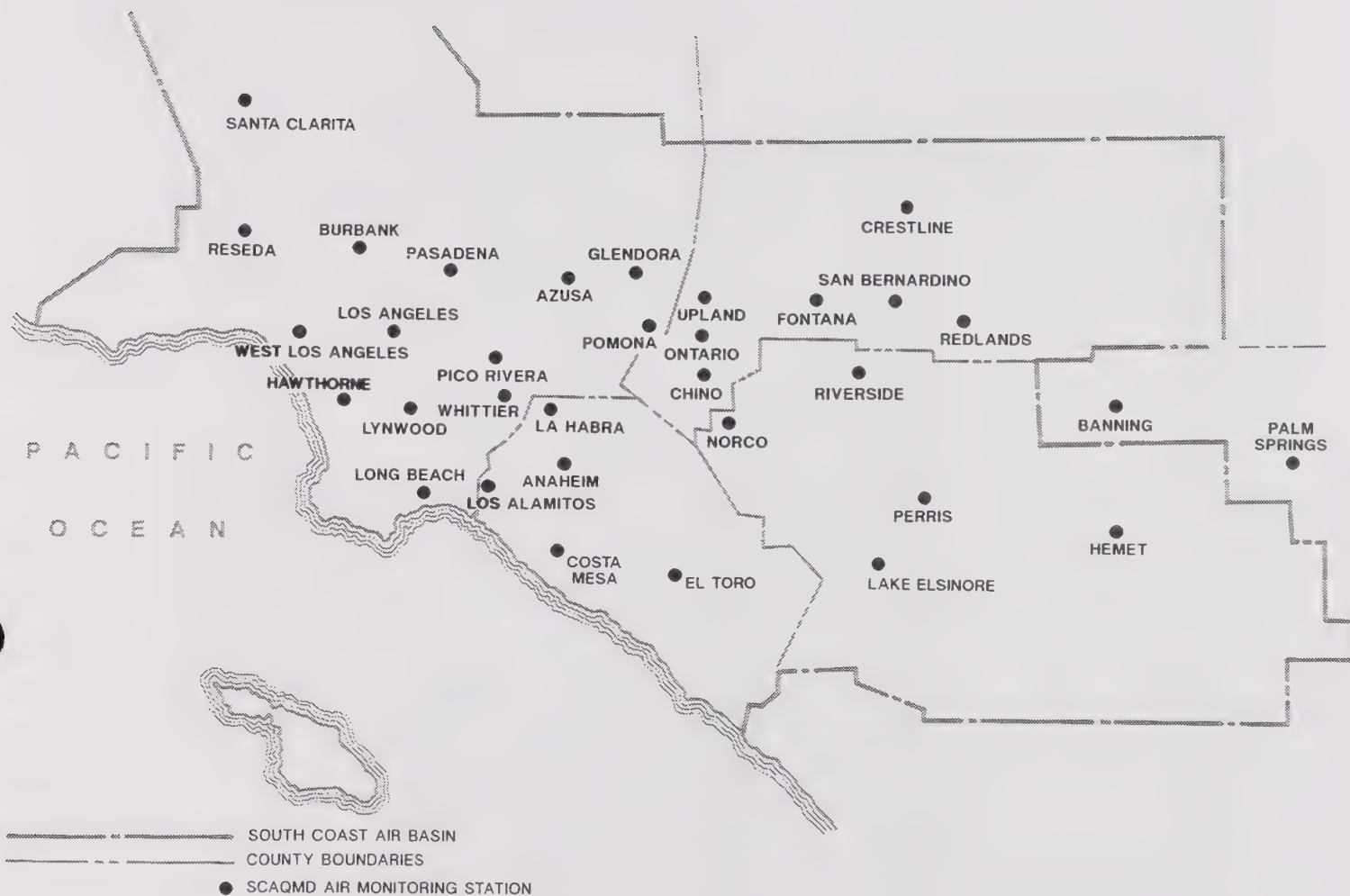
Air quality trends which have been developed at the Whittier air quality monitoring station between 1990 and 1992 are discussed below. From the ambient air quality data (Table 13), it can be seen that 1-hour carbon monoxide (CO), nitrogen dioxide, and sulfur dioxide levels have not equalled or exceeded the relevant state and federal standards, while 8-hour CO, and ozone have exceeded the state and/or federal standards.

Ozone exceeded the state 1-hour standard 15 percent of the time during the last three years and the federal 1-hour standard seven percent of the time. One first stage ozone episode (one-hour average > 20 pphm) was called at the Whittier station during the last three years for which data are available, in 1992. Second stage ozone episodes (one-hour average > 35 pphm) and third stage (one-hour average > 50 pphm) episodes were not declared during that time.<sup>3</sup>

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<sup>2</sup> Air Quality Tables 1990, 1991, 1992; South Coast Air Quality Management District.

<sup>3</sup> Air Quality Data Annual Summaries: 1990, 1991, 1992; California Air Resources Board.



## SCAQMD AIR QUALITY MONITORING LOCATIONS





## 4 ENVIRONMENTAL IMPACT ANALYSIS

TABLE 13  
AMBIENT AIR QUALITY  
WHITTIER AIR MONITORING STATION

	CARBON MONOXIDE				OZONE		NITROGEN DIOXIDE		SULFUR DIOXIDE	
	Maximum 1-Hour Conc. (PPM)	Number of Days Exceeded	Maximum 8-Hour Conc. (PPM)	Number of Days Exceeded	Maximum 1-Hour Conc. (PPM)	Number of Days Exceeded	Maximum 1-Hour Conc. (PPM)	Number of Days Exceeded	Maximum 1-Hour Conc. (PPM)	Number of Days Exceeded
State Standards	> 20 ppm/1-Hour		≥ 9.1 ppm/8-Hour		> .09 ppm/1-Hour		> .25 ppm/1-Hour		≥ .04 ppm/24-Hour	
1992	12	0	9.4	1	.22	60	.21	0	.009	0
1991	13	0	7.5	0	.19	59	.22	0	.010	0
1990	13	0	9.0	0	.19	47	.23	0	.009	0
MAXIMUM	13		9.4		.22		.23		.010	
% EXCEEDED		0%		<1%		15%		0%		0%
Federal Standards	> 35 ppm/1-Hour		≥ 9.5 ppm/8-Hour		> .12 ppm/1-Hour		No Federal Standard		> .14 ppm/24-Hour	
1992	12	0	9.4	0	.22	32	NA	NA	.009	0
1991	13	0	7.5	0	.19	23	NA	NA	.010	0
1990	13	0	9.0	0	.19	21	NA	NA	.009	0
MAXIMUM	13		9.4		.22		NA		.010	
% EXCEEDED		0%		0%		7%		NA		0%
NA = Not Applicable										



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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Figure 21 depicts the annual number of days exceeding the state 1-hour ozone standard during 1990. As shown therein, the annual number of days exceeding the 9 pphm standard in Whittier is close to 50. From Figure 21, it can be seen that the project area and other inland regions exceeded the state standard more than coastal areas of the SCAB.

The state and federal 1-hour carbon monoxide standards were not exceeded in any of the previous three years, while the 8-hour state standard was exceeded once in 1992. The maximum eight-hour carbon monoxide concentration between 1990 and 1992 was 9.4 ppm in 1992, while the maximum one-hour level measured during this period was 13.0 ppm each occurring in 1990 and 1991.

Neither nitrogen dioxide nor sulfur dioxide levels at the Whittier station exceeded state and/or federal standards on the days sampled during the last three years. The highest 1-hour nitrogen dioxide concentration in the last three years was 0.23 ppm, occurring in 1990. The highest 24-hour sulfur dioxide concentration was 0.01 ppm in 1991.

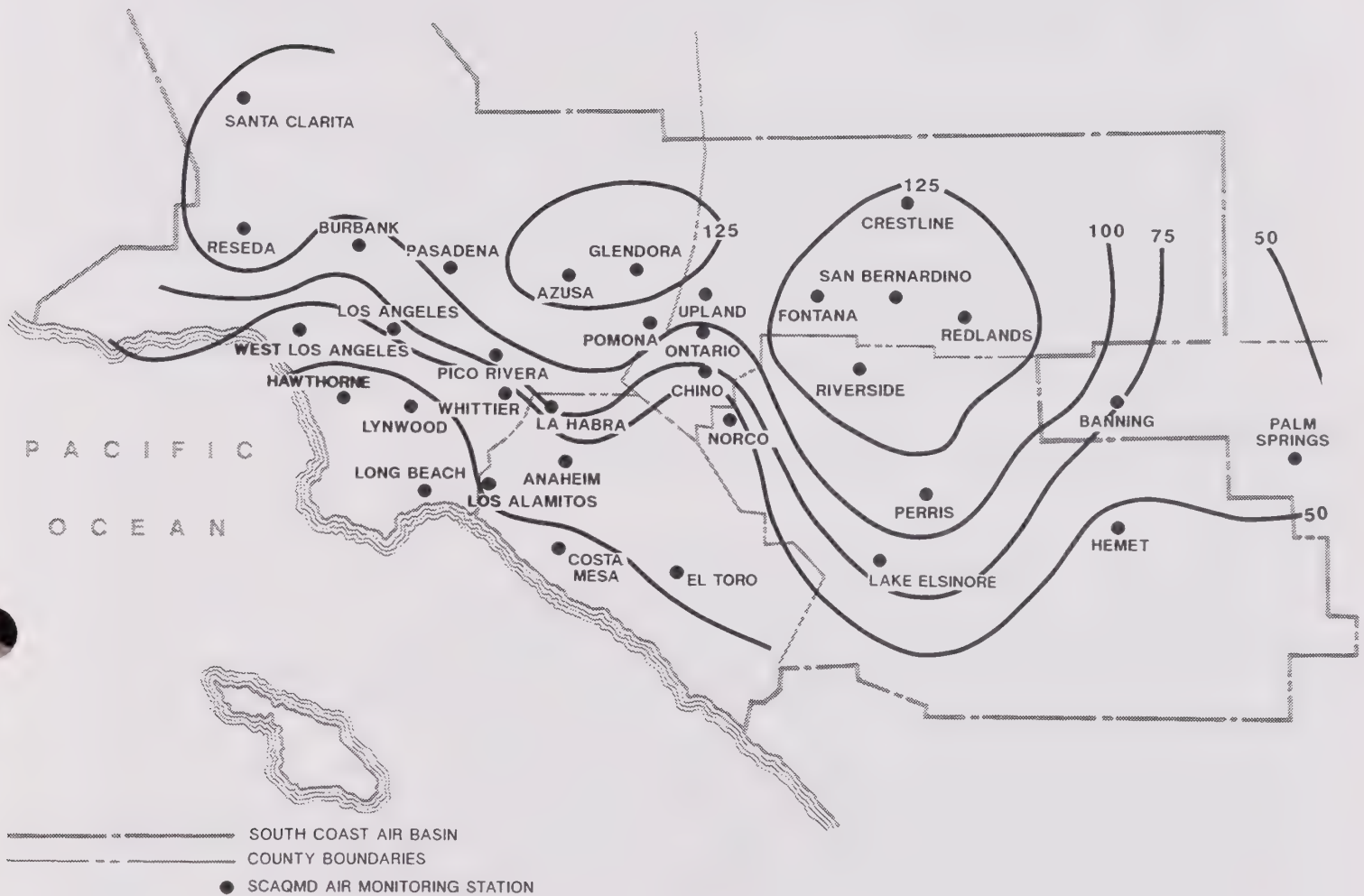
### **E. Toxic Air Contaminants**

Toxic pollutants released onto the atmosphere are regulated under Sections 44300-44384 of Division 26 of the Health and Safety Code, also known as the Air Toxics "Hot Spots" Act of 1987. The Act established a statewide program to inventory air toxic emissions from individual facilities. The Act also requires individual air pollution control districts to prioritize and categorize pollutant emitting facilities as high intermediate or low priority for health risk assessment. Those facilities categorized as high priority must submit a health risk assessment (HRA) to the district; other facilities may be required to submit HRA's according to the district's priorities established pursuant to the Act.

The regulatory approach used by the SCAQMD in controlling toxic air pollutant levels relies on a quantitative risk assessment process to determine allowable emissions from the source rather than on ambient air concentrations. The SCAQMD currently has listed and prioritized twelve facilities that emit toxic air contaminants (4 in category A, 3 in category B, and 5 in category C). Appendix B provides a Table identifying the facility name, location, and prioritization.

### **F. Regional Air Quality Planning Efforts**

The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The Federal Clean Air Act Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in non-attainment areas of the state. This requirement led to the local air quality planning processes in areas like the SCAB. The ARB oversees the activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for approval by EPA. ARB maintains air



## NUMBER OF DAYS STATE OZONE STANDARDS EXCEEDED







quality monitoring stations throughout the state in conjunction with local Air Quality Management Districts. Data collected at these stations are used by the ARB to classify air basins as "attainment" or "non-attainment" with respect to each pollutant and to monitor progress in attaining air quality standards.

The first Air Quality Management Plan (AQMP) for the SCAB was prepared in 1979. This plan is currently the only fully approved by the federal government for the region. The AQMP was revised in 1982 and then again in 1989. The 1989 revision was approved by the District Board in March of 1989, adopted by the ARB in August of 1989 and then sent to the federal Environmental Protection Agency (EPA) for approval. The 1989 AQMP was conditionally approved by the EPA; the local government Transportation Control Measures were withheld from approval pending further documentation regarding their quantifiability, enforceability and replicability. Recent legislation (AB 2595) required a revision of the AQMP by 1991 and for every three years thereafter. A draft revision addressing compliance with state standards was adopted by the District Board in July, 1991. The Final 1991 AQMP was conditionally approved by the ARB, along with a request for further data related to implementation, similar to the EPA concerns for the 1989 AQMP.

The State of California has established health based standards for six air pollutants. As shown in Table 12, these pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM<sub>10</sub>) and lead. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

In addition to primary and secondary air pollution standards, the State of California has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide and particulate matter (see Appendix B). These criteria refer to episode levels representing periods of short term exposure to air pollutants which actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three.

### 4.3.2 Environmental Impacts and Mitigation Measures

#### **IMPACT: TEMPORARY CONSTRUCTION EMISSIONS**

**Impact Analysis:** Temporary air quality impacts may occur during the site preparation and construction activities required to prepare the proposed land uses in the Santa Fe Springs General Plan. Major sources of emissions during this phase include construction equipment, mobile emissions, and fugitive dust emissions during grading operations. In addition, emissions would occur at the power plant serving the construction electrical needs and exhaust emissions would be produced by motor vehicles transporting the construction crew, building materials and heavy duty vehicles to and from the construction sites.



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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Fugitive dust can be estimated by assuming a worst case day for construction activities. The Environmental Protection Agency has estimated that 1.2 tons of dust are generated each month for each acre of land disturbed.<sup>4</sup> A worst case analysis for each construction site is that 100 acres are graded at the same time. The fugitive dust emissions for each site are then anticipated to be 120 tons of particulate matter on a monthly basis, or less than 4 tons daily. With regular watering, the particulate generation would be reduced by 50 percent and by 75 percent with application of petroleum based dust palliatives. It has been estimated that only 45 percent of the particulate matter would be the PM10 particles of concern from a public health perspective.<sup>5</sup> Since the project is in a nonattainment area for PM10, these emission levels would constitute a significant short term impact.

Construction activities would cause combustion emissions from utility engines, onsite heavy duty construction vehicles and equipment hauling materials to and from the site. Exhaust emissions during the construction activities envisioned onsite would vary from day to day as construction activity levels change. However, vehicle emissions would not result in concentrations that could threaten the clean air standards. Emissions should be minimal and disperse without significant impact on nearby sensitive receptors.

*Policies Included in General Plan:* None.

*Additional Mitigation Measures Required:* To minimize fugitive dust during grading and construction activities, the following methods shall be applied to all development projects as determined by current AQMD/UBC directives.

- 4.3-1 All active portions of construction sites, earthen access roads, and material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice a day with complete coverage, preferably in the late morning and after work is done for the day. Where feasible, reclaimed water shall be used.
- 4.3-2 All clearing, grading, earth moving, or excavation activities shall cease during periods of winds greater than 20 miles per hour average over one hour.
- 4.3-3 All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.

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<sup>4</sup> "Compilation of Air Pollutant Emissions", September 1985.

<sup>5</sup> Mr. Ranji George, SCAQMD Planning and Rules Division, pers. comm., 1988.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- 4.3-4 The area disturbed by clearing, earth moving, or excavation activities shall be minimized at all times. This can be accomplished by mowing instead of disking for weed control and seeding and watering inactive portions of the construction site until grass growth is evident.
- 4.3-5 Construction site vehicle speed shall be limited to 15 miles per hour.
- 4.3-6 Streets adjacent to the project site shall be swept as needed to remove silt which may have accumulated from construction activities.

The following mitigations serve to minimize mobile source emissions during construction and shall be incorporated into any construction contracts:

- 4.3-7 All internal combustion engine driven equipment shall be properly maintained and well tuned according to the manufacturer's specifications.
- 4.3-8 During the smog season (May through October), the construction period shall be lengthened to minimize the number of vehicles and equipment operating at the same time.
- 4.3-9 Diesel powered or electric equipment shall be utilized in lieu of gasoline powered engines.
- 4.3-10 Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and a flagperson shall be retained to maintain safety adjacent to existing roadways.

*Level of Significance After Mitigation:* Less than significant.

### **IMPACT: LONG TERM REGIONAL IMPACTS DUE TO PROJECT BUILDOUT**

*Impact Analysis:* Long term air emission impacts are those associated with the change in permanent use of the project area. Two types of air pollutant sources must be considered with respect to the proposed project: stationary sources and mobile sources. Stationary sources include emissions onsite from activities at the proposed land uses and natural gas combustion, as well as emissions at the power plant associated with the electrical requirements of the project. Mobile source vehicle trips include: employees commuting to the commercial and industrial facilities; consumers at the retail establishments; recreational trips; deliveries; residents, visitors and shoppers, and maintenance activities in the project area.

Table 14 identifies the increase in stationary and mobile source emissions associated with the proposed General Plan. As shown, daily emission from stationary sources, or natural gas and

## 4 ENVIRONMENTAL IMPACT ANALYSIS

electric energy, are projected to be 88 pounds of carbon monoxide (CO), 176 pounds of nitrogen dioxide (NO<sub>x</sub>), 5 pounds of particulates (PM<sub>10</sub>), and 18 pounds of reactive organic gases (ROG). The increase in trips generated by the change in land uses proposed would result in 45,489 average daily trips within the City. The mobile source emissions produced from running exhaust and hot and cold start emissions would be 6,189 pounds of CO, 428 pounds of NO<sub>x</sub>, 240 pounds of ROG and 138 pounds of PM<sub>10</sub>.

The increase in emissions associated with the proposed General Plan would be expected to lead to a daily generation of 6,277 pounds of CO, 258 pounds of ROG, 600 pounds of NO<sub>x</sub> and 143 pounds of PM<sub>10</sub>. The change in land uses from existing to proposed General Plan conditions results in a significant increase in regional air pollutant emissions from mobile and stationary sources. These emissions are provided in Table 14 and are detailed in Appendix B.

**TABLE 14**  
**GENERAL PLAN EMISSION INVENTORY**  
(pounds per day)

	Carbon Monoxide	Reactive Organic Gases	Nitrogen Oxides	Particulates
Electric Energy	24	1	137	4
Natural Gas	64	17	39	1
Mobile	6,189	240	428	138
Total	6,277	258	604	143

<sup>1</sup> See Appendix B for assumptions and methodology utilized for determining emission inventory.

### *Policies Included in the General Plan:*

Although significant impacts result from implementation of the General Plan, the Circulation Element contains several Policies that help in the reduction of air pollutants. The Circulation Element of the General Plan established a policy foundation including the use of Transportation Demand Management (TDM) strategies, the enhancement of public transportation and the development of bicycle routes. Policies from the Circulation Element are summarized below:

#### Transportation System/Demand Management

- 3.1 Pursue transportation management strategies that will maximize vehicle occupancy and optimize average trip length.



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- 3.2 Encourage non-residential development to provide employee incentives to utilize alternatives to conventional automobile travel (i.e., carpools, vanpools, buses, bicycle and walking).
- 3.3 Encourage the implementation of employer TDM requirements included in the South Coast Air Quality Management District's (AQMD) Regulations.
- 3.4 Encourage industry to use flex-time, staggered working hours and other means to lessen commuter traffic.
- 3.5 Encourage the use of multiple occupancy vehicle programs for shopping and other uses to reduce mid-day traffic.
- 3.6 Promote ridesharing through publicity and provision of information to the public.
- 3.7 Minimize pedestrian and vehicular conflicts.
- 3.8 Implement traffic signal coordination on arterial streets to the maximum extent practical, and integrate signal coordination efforts with those of adjacent jurisdictions.
- 3.9 Encourage the development of additional regional public transportation services and support facilities including park-and-ride lots near the I-5 Freeway and the I-605 Freeway.

### Public Transportation

- 5.1 Coordinate with the MTA to increase transit services and expand services through transit facility improvements.
- 5.2 Encourage new development that is designed in a manner which facilitates provision or expansion of transit service, provides on-site commercial/recreational facilities to discourage midday travel, and provides on-site circulation.
- 5.3 Require proposed developments to include transit facilities, such as park-and-ride sites, bus benches, shelters, pads or turn-outs, where appropriate, in their improvement plans or in proximity to their development.
- 5.4 Encourage developers to work with agencies providing transit service with the objective of maximizing the potential for transit use.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- 5.5 Encourage employers to reduce employee vehicular trips by offering incentives for employees to use public transportation.
- 5.6 Encourage MTA to support the Norwalk/Santa Fe Springs Transportation Center which will provide services for rail and bus utilization, and the construction of park-and-ride facilities for interface with regional freeway and HOV facilities, and the Green Line.
- 5.7 Encourage the provision of safe, attractive and clearly identifiable transit stops throughout the community.
- 5.8 Develop design standards that promote access to transit facilities.
- 5.9 Encourage accessible and efficient public transit for persons with impaired mobility.
- 5.10 Coordinate with Amtrak, MTA, and Metrolink regarding a linkage to commuter rail service for residents and employees, such as shuttle connections to employment centers and residential areas.

### **Trail Systems**

- 6.1 Maintain a Bikeway Plan that is consistent with other adopted master plans, to assure that local bicycle routes will be compatible with routes of neighboring jurisdictions.
- 6.2 Maintain existing pedestrian facilities and support the inclusion of pedestrian facilities in new development.
- 6.3 Where appropriate, require proposed developments adjacent to proposed bikeway routes to include bicycle paths or lanes in their street improvement plans to construct the bicycle paths or lanes as a condition of project approval.
- 6.4 Endorse safe, separate, and convenient paths for bicycles and pedestrians so as to encourage these alternate forms of transportation.
- 6.5 Require plans for bicycle and pedestrian facilities to give priority to providing continuity and closing gaps in the bikeway and sidewalk network.
- 6.6 Encourage the placing of showers, changing rooms and public bicycle storage at all new and existing non-residential developments and public places.

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### ***Additional Mitigation Measures Required:***

- 4.3-11 The use of energy efficient street lighting and parking lot lighting (low pressure sodium vapor lights) shall be considered throughout the project area to reduce emissions at the power plant.
- 4.3-12 Low polluting and high efficiency appliances shall be encouraged for development plans wherever possible.
- 4.3-13 Landscaping shall include water efficient plant species and irrigation to reduce water consumption and provide passive solar benefits.
- 4.3-14 Design guidelines for project developments shall consider innovative solutions to encourage transit ridership and other alternative transportation modes.
- 4.3-15 Design ingress and egress points in new developments to minimize idling vehicle emissions.
- 4.3-16 Encourage use of alternative fuel vehicles in vehicle fleets and design new facilities to set aside space for refueling or electrical recharging of vehicles.

***Level of Significance After Mitigation:*** Since the project is located in a nonattainment area for air pollutants, regional air quality impacts would be significant and unavoidable after mitigation.

### ***IMPACT: INCREASED LOCAL CO CONCENTRATIONS***

***Impact Analysis:*** Carbon monoxide is directly emitted by internal combustion engines and therefore occurs at elevated concentrations near roadways. At heavily used or congested intersections, CO levels can exceed state and federal standards and lead to adverse health effects in people experiencing long term exposure to these elevated levels. Sensitive persons, such as the elderly, infirm or young children are at higher risk from pollutant exposure.

Carbon monoxide concentrations can be estimated adjacent to nearby intersections carrying substantial volumes of project-related traffic using the California Department of Transportation Line Source Dispersion Model (CALINE4). Carbon monoxide levels in the project vicinity during peak hour traffic were assessed with the CALINE4 computer model. Figure 22 identifies the nine intersections in the City of Santa Fe Springs which were analyzed with the CALINE4 model.

The purpose of the model is to assess air quality impacts near transportation facilities in the microscale region. Given the source strength (number of vehicles), local meteorology, the site geometry and the site characteristics, the model can reliably predict pollutant concentrations.





# AIR POLLUTANT ANALYSIS LOCATIONS







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Restrictive dispersion conditions and parallel winds were assumed in the following analysis to provide worst-case conditions. The CALINE4 assumptions are detailed in Appendix B.

A comparison of the project carbon monoxide levels shown in Table 15 with the state and federal standards indicates the significance of the projected concentrations. The standards for carbon monoxide are also presented in Table 15. Carbon monoxide concentrations are 5.5 ppm over a 1-hour averaging period and 3.8 ppm over an 8-hour averaging period as projected for the Whittier monitoring station under year 2000 conditions and identified in the SCAQMD, CEQA Air Quality Handbook, April 1993.

TABLE 15 INTERSECTION CARBON MONOXIDE CONCENTRATIONS				
	1-Hour Average (ppm)		8-Hour Average (ppm) <sup>1</sup>	
Receptor Distance (Feet) <sup>2</sup>	50	100	50	100
<b>AMBIENT + GENERAL PLAN BUILD-OUT YEAR 2012</b>				
<b>Pioneer Boulevard @</b>				
- Telegraph Road	1.3	0.8	0.9	0.6
- Los Nietos Road	0.9	0.5	0.6	0.4
- Florence Avenue	1.3	0.8	0.9	0.6
<b>Telegraph Road @</b>				
- I-605 SB Ramp	1.4	0.9	1.0	0.6
- Carmenita Road	1.6	0.9	1.1	0.6
<b>Orr &amp; Day Road @</b>				
- Florence Avenue	1.6	1.0	1.1	0.7
<b>Norwalk Boulevard @</b>				
- Washington Boulevard	1.7	0.9	1.2	0.6
<b>Valley View Avenue @</b>				
- Alondra Boulevard	1.8	1.0	1.3	0.7
<b>Dice Road @</b>				
- Slauson Avenue	0.7	0.5	0.5	0.4
Background Concentration <sup>3</sup>	5.5	5.5	3.8	3.8
State Standard	20.0	20.0	9.0	9.0
Federal Standard	35.0	35.0	9.0	9.0
<sup>1</sup> Calculated by multiplying the projected 1-hour concentration by a persistent factor of 0.7, the ratio of the second highest 8-hour mean to the second highest 1-hour mean as measured at the Whittier air quality monitoring station. <sup>2</sup> Receptor Distance is measured from the intersection centerline. <sup>3</sup> Background concentrations taken from SCAQMD, CEQA Air Quality Handbook, April 1993. Concentrations represent year 2000 conditions at the Whittier monitoring station. This level must be added to the intersection concentrations to determine exceedances.				

The scenario analyzed reflects build-out year 2012 traffic volumes after General Plan implementation. As shown in Table 15, carbon monoxide concentrations at 50 feet from the

## 4 ***ENVIRONMENTAL IMPACT ANALYSIS***

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intersections analyzed will be below the one-hour state standards (20 ppm) and the federal standard (35 ppm) under General Plan build-out conditions. Similarly, the eight-hour carbon monoxide levels will also be below the state and federal eight-hour standards (9 ppm).

The intersections of Orr & Day/Florence, Pioneer/Florence, and Pioneer/Los Nietos have existing sensitive receptors. Carbon monoxide concentrations are projected for the nearest sensitive receptor based on the land uses proposed in the General Plan. As shown, carbon monoxide levels would not exceed the state and federal standards at sensitive receptor locations.

As shown in Table 15, under General Plan conditions, roadway contributions to carbon monoxide concentrations at 50 feet range up to 1.8 over a 1-hour averaging period and up to 1.3 ppm over an 8-hour averaging period. Adding the background concentrations, carbon monoxide levels should not exceed the state and federal standards even under very restrictive meteorological conditions. The highest levels at 50 feet would reach 7.3 ppm over one-hour and 5.1 ppm over eight-hour periods at the intersection of Valley View/Alondra.

***Policies Included in the General Plan:*** No specific mitigation measures included in the General Plan.

***Additional Mitigation Measures Required:*** No additional mitigation is required.

***Level of Significance After Mitigation:*** Less than significant.

### ***IMPACT: CONFORMITY WITH REGIONAL PLANS***

***Impact Analysis:*** A project is found to be in conformance with the State Implementation Plan (SIP) when it has satisfied the following three criteria:

- It improves the subregion's job/housing balance performance ratio or is contributing to attainment of the appropriate subregional VMT target.
- It reduces vehicle trips and vehicle miles traveled to the maximum extent feasible by implementing transportation demand management strategies.
- The environmental document includes an air quality analysis which demonstrates that the project will not have a significant negative impact on air quality in the long term.

The SELAC Subregion of the South Coast Air Basin in which the proposed project is located, is considered jobs rich. The General Plan proposes an increase in employment opportunities by providing 71,485 jobs. However, since the subregion shows strong evidence of economic depression, the project may actually improve conditions in SELAC. The additional employment



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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opportunities provided in Santa Fe Springs are expected to be filled by residents of the surrounding communities.

To comply with the second criteria, the project would need to reduce vehicle trips and vehicle miles of travel associated with the project. Policies in the General Plan and mitigation measures included in the EIR include actions to reduce mobile source emissions. Several of these actions are included in the air quality section of the EIR to reduce potential air quality impacts to a feasible level.

The proposed project improves the subregional jobs/housing balance and minimizes air quality impacts to the extent feasible. Therefore, the project appears to be consistent with the three AQMP conformity tests and should be considered consistent with the AQMP.

The region is currently gearing up for development of the 1994 AQMP revision. It is expected that specific criteria related to the local government role in reducing mobile source emissions will be identified. Applicable to the project, the 1994 AQMP is expected to address local government land use decisions to support multi-modal behavior and bring services closer to where they are being utilized. By incorporating mitigation which facilitates the use of alternative modes, the project supports these regional air quality goals.

***Policies Measures Included in the General Plan:*** No specific mitigation measures included in the General Plan.

***Additional Mitigation Measures Required:*** No additional mitigation is required.

***Level of Significance After Mitigation:*** Less than significant.

### **IMPACT: TOXIC AIR CONTAMINANTS**

***Impact Analysis:*** At this stage in the planning process it is not possible to determine the potential of toxic pollutants being generated from future development. Potential toxic generation from future development will be addressed at the project level. The SCAQMD Rule 1401, New Source Review of Carcinogenic Air Contaminants, assess and manages risk from new or modified sources of air toxics through the District's permitting program.

***Policies Measures Included in the General Plan:*** No specific mitigation measures included in the General Plan.

***Additional Mitigation Measures Required:*** No additional mitigation is required.

***Level of Significance After Mitigation:*** Less than significant.



### **4.4 Noise**

#### **4.4.1 Environmental Setting**

Noise is usually defined as "unwanted sound". It consists of any sound that may produce physiological or psychological damage and/or interfere with human communication, work, rest, recreation, and sleep. People recognize that noise has become an environmental pollutant that threatens our quality of life. In this way, it is a form of energy waste from human activities.

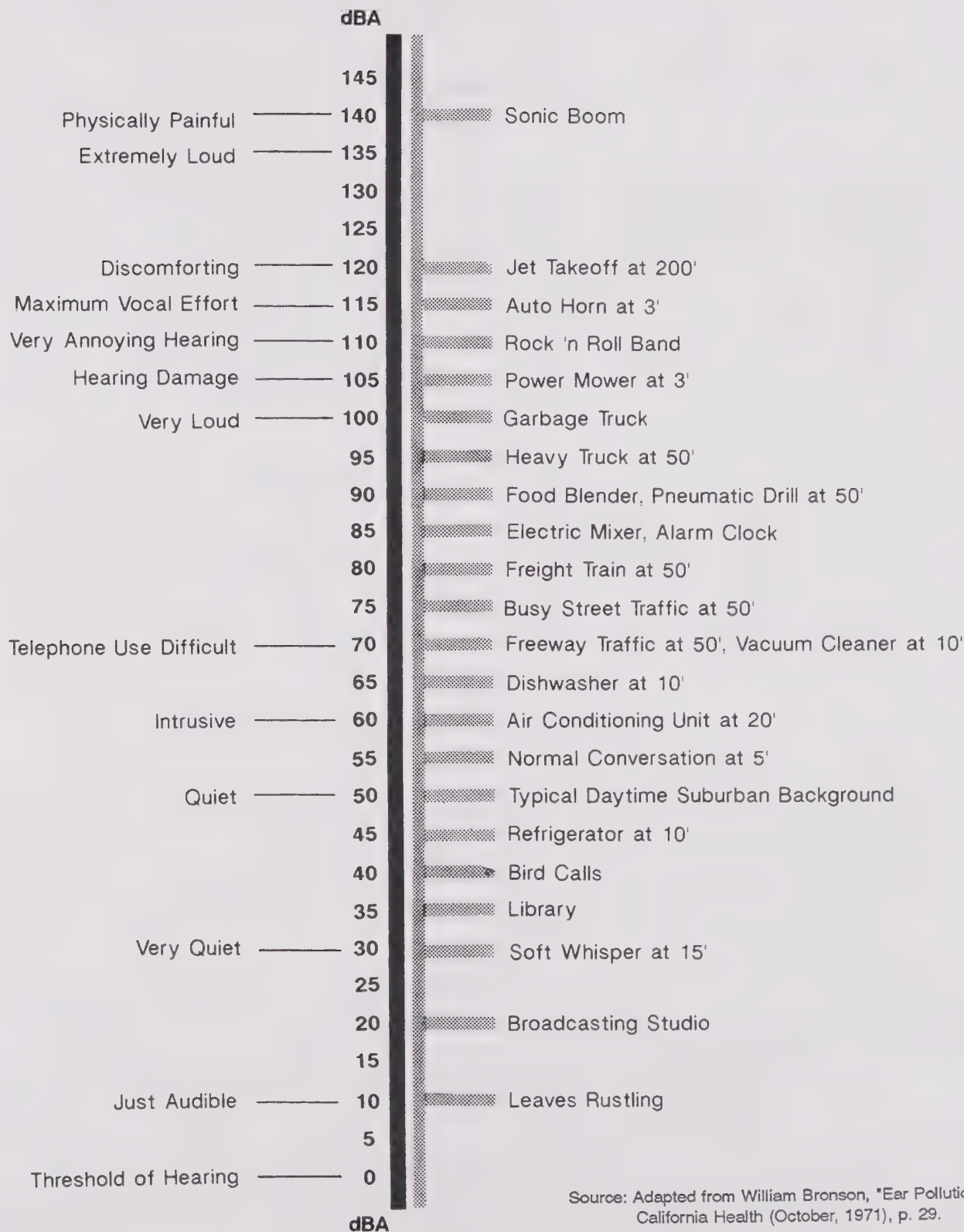
To the human ear, sound has two significant characteristics: pitch and loudness. The negative aspect of pitch is generally related to annoyance, while loudness can affect our ability to hear. Pitch is the number of complete vibrations (cycles per second) of a wave that result in the tone's range from high notes to low notes. Loudness is the strength of a sound that describes a noisy or quiet environment, measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn, produces the sound's effect. This is a characteristic of sound which can be precisely measured with monitoring instruments.

#### **A. The Measurement of Sound**

Sound intensity or acoustic energy is measured in decibels (dBA) that are weighted to correct for the relative frequency response of the human ear. For example, an A-weighted noise level includes a de-emphasis on high frequencies of sound that are heard by a dog's ear, but not by a human's ear. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Unlike linear units (inches or pounds), decibels are measured on a logarithmic scale, representing points on a sharply rising curve.

Since noise is measured on a logarithmic scale, ten decibels is ten times more intense than one decibel, twenty decibels is one hundred times more intense and thirty decibels is a thousand times more intense. Thirty decibels represents one thousand times as much acoustic energy as one decibel. A sound as soft as human breathing is about 10 times greater than zero decibel. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud). Various sound levels corresponding to typical sources are provided in Figure 23.

Sound levels are generated from a source and their decibel level dissipates exponentially as the distance from that source increases. For a single point source, the sound level decays approximately six decibels for each doubling of distance from the source. If noise is produced by a line source, such as highway traffic or railroad operations, the sound will decrease three decibels for each doubling of distance in a hard site environment. Line source noise in a soft



Source: Adapted from William Bronson, "Ear Pollution,"  
California Health (October, 1971), p. 29.

## SOUND LEVELS AND HUMAN RESPONSE







## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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environment, which is relatively flat with vegetation, will decrease four and a half decibels for each doubling of distance.

Many noise rating schemes have been developed for various time periods, but an appropriate rating of ambient noise affecting human communities also needs to account for the annoying effects of sound. The predominant rating scales for human communities are the Noise Equivalent Level (Leq), the Community Noise Equivalent Level (CNEL) and the Day-Night Average Sound Level (Ldn), all of which are based on A-weighted decibels (dBA). The Leq is the total sound energy of time-varying noise over a sample period. The CNEL is the time-varying noise over a twenty-four hour period with a weighting factor applied to noises occurring during evening hours from 7:00 p.m. to 10:00 p.m. (relaxation hours) and at night from 10:00 p.m. to 7:00 a.m. (sleeping hours) of 5 and 10, respectively.

The Ldn measure is an average of the A-weighted sound levels experienced during a 24-hour period. Unlike the CNEL (which divides the 24-hour period into three periods), the Ldn divides the 24-hour period into only two periods. The Ldn identifies day (7:00 am to 10:00 pm) and night (10:00 pm to 7:00 am) periods, eliminating the evening hours as more sensitive than the daytime. Since nighttime noise levels are considered more annoying, these measurements are increased by 10 dB before averaging along with the daytime levels. Although not as sensitive a measure as the CNEL, for most transportation noise sources the two measures (CNEL and Ldn) are essentially equal and may be used interchangeably.

### **B. The Psychological and Physiological Effects of Noise**

Physical damage to human hearing begins at prolonged exposure to more than 85 decibels. Exposure to high noise levels effects our entire system, with prolonged noise exposure in excess of 75 decibels increasing body tension, affecting blood pressure, functions of the heart, and the nervous system. Extended periods of noise exposure above 90 dBA will result in permanent cell damage. A sound level of 190 dBA will rupture the ear drum and permanently damage the inner ear.

The ambient noise problem is widespread and generally more concentrated within urban areas than in outlying residential neighborhoods. Environmental sound levels in high density urban areas are doubling every 10 years. Suburban areas are not experiencing such a significant increase in noise levels because of their relative distance from major noise sources.

The Occupational Safety and Health Administration (OSHA) has determined that a maximum of 45 dB protects against indoor activity interference and hearing loss for residential, hospital, and educational land uses. Outdoor activity interference threshold levels were determined to be higher for these land uses, identified as 55 dBA where speech communication between workers over an extended period of time would be difficult. Commercial, transportation, industrial and recreation activities were considered highly variable, so thresholds for these land uses have not



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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been determined. Similarly, agricultural-related outdoor activities have no stated interference noise level. According to OSHA, hearing loss consideration for all activities becomes an issue at 70 dB or greater, for both indoor and outdoor noise environments.

### **C. Sound Propagation**

Noise sources may either be a "line source" (e.g. a heavily traveled highway) or a "point source" (e.g. a stationary engine or compressor). Highway traffic noise on high volume roadways simulates a "line source" where a nominal 3.0 dBA drop with each doubling of distance occurs between the noise source and the noise receiver.

Environmental factors such as the wind direction and speed, temperature gradients, the characteristics of the ground (hard or soft) and the air (relative humidity), and the presence of grass, shrubbery, and trees, often combine to increase the actual attenuation achieved outside laboratory conditions to 4.5 decibels per doubling of distance. Thus, a noise level of 69.5 decibels at 50 feet from a highway centerline would attenuate to 65.0 decibels at 100 feet, 60.5 decibels at 200 feet, and so forth.

This is particularly true where the view of the roadway is interrupted by isolated buildings, clumps of bushes or scattered trees, or the intervening ground is soft or covered with vegetation and the source or receiver is located more than 3 meters above the ground. It should be noted, however, that the nominal value of 3.0 dBA with doubling applies to sound propagation from a "line source": (1) over the top of a barrier greater than 3 meters in height, or (2) when there is a clear unobstructed view of the highway, the ground is hard, there are no intervening structures, and the height of the line-of-sight averages more than 3 meters above the ground.<sup>6</sup> In an area which is relatively flat and free of barriers, the sound resulting from a single "point source" of noise spreads in a spherical manner away from the source and drops by 6 decibels for each doubling of distance.

This applies to fixed noise sources and mobile noise sources which are temporarily stationary such as an idling truck or other heavy duty equipment operating within a confined area (such as an industrial site). Sound attenuation from a train resembles a line source near the railroad tracks and a point source at distances beyond three-tenths of the train length.

### **D. Motor Vehicle Noise**

Noise levels adjacent to roadways vary with the volume of traffic, the mean vehicular speed, and the truck mix. The noise levels adjacent to line sources of noise such as roadways increase by 3.0 dBA with each doubling in the traffic volume (provided that the speed and truck mix do not

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<sup>6</sup> Source: California Department of Transportation, "Noise Manual", 1980.

change). From the mathematical expression relating increases in the number of noise sources (motor vehicles) to the increase in the adjacent noise level, it can be shown that a 26 percent increase in the traffic volumes on a given route increases the adjacent noise by 1.0 dBA. Changing the vehicle speed or truck mix has an even stronger impact on noise levels.

The truck mix on a given roadway also has a significant effect on the adjacent noise levels. As the number of trucks increases and becomes a larger percentage of the total vehicle volume, the adjacent noise levels increase. This effect is more pronounced if the number of heavy duty (3+ axle) trucks is large when compared to the number of medium duty (2 axle) trucks. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. As vehicle speed increases, so does the noise from these areas of the vehicle. The noise level adjacent to a roadway is highly dependent on the average vehicle speed, especially at lower speed levels. The highest speeds are typically measured midlink, where traffic lights, stop signs and cross traffic provide less interference. Although some vehicles will go faster than the posted speed limit, in most areas, the average speed is just below this limit. Reducing the average motor vehicle speed decreases the noise exposure of receptors inside the car and those adjacent to the roadway. Similarly, an increase in vehicle speed results in higher noise levels.

### **E. Land Use Compatibility**

Land use compatibility with noise is an important consideration in the planning and design process. Some land uses are more susceptible to noise intrusion than others, depending on the nature of activities expected with that use. For instance, at educational facilities it is important to concentrate and to communicate. An interior noise level in excess of 50 dBA may interfere with these activities. Similarly, interference with sleep may occur at 45 dBA, so residential land use standards must reflect this noise level.

Some land uses are more tolerant of noise than others. These uses typically include activities that generate loud noise levels or those that do not require verbal interaction, concentration, or sleep. Commercial and retail facilities require very little speech communication and therefore are generally allowed in noisier environments. Some industrial areas generate loud noises that would interfere more with communication than all but the highest exterior noise levels.

The following discussions address applicable noise standards and identifies those land uses deemed to be sensitive to noise. While most standards are considered guidelines, it is important to maintain reasonable ambient noise levels to protect the health and welfare of the community.

#### **1. State of California**

Land uses deemed noise sensitive by the State of California include schools, hospitals, rest homes, long-term care and mental care facilities. Many jurisdictions also consider residential



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uses particularly noise sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities. Some variability in standards for noise sensitivity may apply to different densities of residential development, and single family uses are frequently considered the most sensitive. Jurisdictions may identify other uses as noise sensitive such as churches, libraries, day care centers, hospitals, and parks.

Land uses that are relatively insensitive to noise include office, commercial, and retail developments. There is also a range of less sensitive noise receptors including uses which generate significant noise levels or uses where the level of human occupancy is typically low. Examples of less sensitive uses include: industrial and manufacturing uses, utilities easements, agriculture, vacant land, parking lots, salvage yards, and transit terminals.

California's noise insulation standards were officially adopted by the California Commission of Housing and Community Development in 1974. In November of 1988, the Building Standards Commission approved revisions to these standards (Title 24, Part 2, California Code of Regulations). The ruling states that "Interior noise levels attributable to exterior sources shall not exceed 45 dBA in any habitable room. The noise metric shall be either. . . CNEL or. . . Ldn, consistent with the noise element of the local general plan." Additionally, the commission specified that residential buildings or structures to be located within exterior CNEL contours of 60 dBA or greater of an existing or adopted freeway, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior CNEL of 45 dBA.

### 2. City of Santa Fe Springs

#### General Plan - Noise Element - 1984

The City of Santa Fe Springs Noise Element was last updated in 1984. The goal of the currently adopted noise element is to minimize the detrimental effects of noise, identified as the costs from noise-related absenteeism, reduced efficiency, and the adverse effects of noise on an individual's health and well-being. The specific objective of the Noise Element is to reduce the negative impacts of noise on future developments by identifying major noise sources and compatible land uses. In order to accomplish this, policies are identified including the following:

- noise barriers or other mitigation in new subdivisions in areas with existing or projected CNELs greater than 65 dBA;
- noise barrier construction along railroad line adjacent to residential zones;
- reduction of train noise;

- noise control for interior and exterior living spaces of new residential developments within noise impact areas;
- noise insulation for conversion of apartments into condominiums;
- noise control for all new equipment purchases;
- project review to reduce noise near sensitive receptors;
- implementing review process for noise policies;
- observation of State and Federal standards; and,
- enforcement of regulations for motor vehicles operating within Santa Fe Springs.

### **F. Existing Noise Environment**

As a prerequisite to an effective noise control program, a community must be cognizant of the location and extent of local noise problems; namely major noise source locations, noise sensitive receptor locations and current levels of exposure. This data can then be utilized to focus noise control and abatement efforts where they are most needed. In some cases, the control of noise sources will be beyond the City's jurisdiction. However, by recognizing these limitations, more effective land use strategies can be developed.

#### **1. Ambient Noise Measurements**

The determination of the major noise sources and the identification of noise sensitive receptors provide the basis of developing a community noise survey. A total of six 24-hour noise measurements and twenty-five limited duration noise measurements were obtained throughout the City during the period from May to October, 1993. Figure 24 provides the locations of the measurement sites. These locations were selected to determine the impact of noise from traffic on the major arterials and freeways, and train movements on the Southern Pacific rail line. The sites selected do not represent typical locations in the City, but rather worst-case impact areas along roadways and adjacent to other noise sources. Sensitive receptor locations monitored include single and multi-family residential units, schools, a park, and a hospital. The main purpose of the noise monitoring was to determine an existing noise profile for the study area used to estimate the level of current and future noise impact.

Table 16 provides a summary of noise measurement data for the 31 monitoring locations. Detailed noise measurement information is provided in the Appendix. Ambient noise levels range from 53.5 dBA to 77.0 dBA. Noise levels exceeded 65 dBA at 25 of the 31 monitoring locations. Ambient noise measurements, taken in worst-case locations throughout the City,







## NOISE MEASUREMENT LOCATIONS





## 4 ENVIRONMENTAL IMPACT ANALYSIS

generally indicate an incompatible noise environment for sensitive noise receptors. Monitoring occurred during peak traffic hours, or during off-peak conditions with modifications to reflect peak traffic conditions.

Twenty-four noise measurements adjusted to reflect CNEL were taken at six locations in Santa Fe Springs. All six measurements were located in the rear yards of single-family residences. The noise levels ranged from 57.7 to 67.8 dBA CNEL. Four of the six measurements exceed the 65 CNEL exterior standard identified in Table 4.4B in Section 4.4.2. The noise sources contributing to the exceedances include freeway traffic from Interstate 5 and State Route 605, and train operations.

Noise measurements indicate that residences next to some major and secondary arterials in the City of Santa Fe Springs are exposed to a CNEL over 65 dB. These arterials include Carmenita Road, Florence Avenue, Greenleaf Avenue, Los Nietos Road, Orr & Day Road, Pioneer Boulevard and Telegraph Road.

The equipment was utilized on the interior of the facility and, therefore, produced muffled noise at a relatively low level.

**TABLE 16  
NOISE MEASUREMENTS**

Location	Measured Maximum Leq*	Noise Source
1	69.6	Traffic on Washington
2	68.1	Traffic on Sorenson, industry
3	69.7	Traffic on Slauson
4	56.5 57.7*	Operations at Los Nietos yard
5	68.9	Traffic on Norwalk
6	68.0	Traffic on Los Nietos
7	68.9	Traffic on Greenleaf
8	72.6	Traffic on Painter
9	64.0 66.2*	Traffic on Rt. 605
10	63.7	Traffic on Orr & Day
11	71.0 67.8*	Traffic on Rt. 605
12	62.5 65.5*	Traffic on Rt. 605
13	70.1	Traffic on Orr & Day
14	63.2	Traffic on Pioneer
15	65.9	Traffic on Telegraph
16	65.9	Traffic on Santa Fe Springs Rd.



## 4 ENVIRONMENTAL IMPACT ANALYSIS

**TABLE 16  
NOISE MEASUREMENTS**

Location	Measured Maximum Leq*	Noise Source
17	66.5	Traffic on Painter, industry
18	70.2	Traffic on Pioneer
19	67.2	Traffic on Florence
20	66.1	Traffic on Bloomfield
21	62.5 66.0*	Trains, traffic on Rt. 5
22	72.0 64.1*	Train operations
23	69.9	Traffic on Lakeland & Pioneer
24	77.0	Traffic on Shoemaker
25	71.3	Traffic on Carmenita & Lakeland
26	71.3	Traffic on Bloomfield
27	72.7	Traffic on Imperial Hwy.
28	72.2	Traffic on Marquardt & Foster Rd.
29	72.9	Traffic on Rosecrans
30	72.1	Traffic on Rosecrans
31	70.3	Traffic on Alondra

\* Reflects CNEL at noise measurement location.

Other noise sources monitored throughout the City are described in Table 17. These noise levels are not necessarily indicative of any particular area or location.

**TABLE 17  
PEAK SOUND LEVELS IN SANTA FE SPRINGS**

Noise Source	Range of Sound Levels
Civilian helicopter flyover	58 to 80 dBA
Military helicopter flyover	61 to 80 dBA
Truck on city streets	65 to 91 dBA
Transit Bus	68 to 84 dBA
Motorcycles	67 to 87 dBA
Sports cars	55 to 85 dBA
Traffic on main arterials	55 to 70 dBA
Traffic on I-5 and 605 freeways	66 to 82 dBA
Locomotive passby on SP railroad	65 to 70 dBA
Car horn sounding	75 to 90 dBA

## 4 *ENVIRONMENTAL IMPACT ANALYSIS*

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### 2. Sources of Noise

Major noise sources in the City of Santa Fe Springs include freeways, railroads, major and minor arterial roadways, and industrial zones. These can be grouped into two basic categories: transportation sources (primarily traffic) and non-transportation sources. Each source and its impact on the noise environment is summarized in the following paragraphs and discussed in greater detail in the Technical Memorandum.

The most significant and common source of noise in urban areas is transportation related. This includes automobiles, trucks, buses, motorcycles, railroads, aircraft and trains. Motor vehicle noise is of concern because of its continuous nature and its proximity to noise sensitive areas. Other sources of noise within the City are non-transportation related, including industrial and commercial activities, sport activities within public and private parks, construction, and other human activities. Trucks at commercial loading areas are also identified as a source of noise.

#### Motor Vehicles

The City of Santa Fe Springs is bisected by several arterial roadways and by two freeways. Some of the major arterials in the area include Telegraph Road, Florence Avenue, Carmenita Road Imperial Highway, Norwalk Boulevard and Pioneer Boulevard. Some additional roadways carry significant traffic volumes and are adjacent to noise sensitive land uses.

The highway traffic noise prediction model developed by the Federal Highway Administration (RD-77-108) was used to evaluate existing noise conditions in the study area. This model utilizes various parameters including the traffic volume, vehicle mix and speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening and nighttime hours. The resultant noise levels are then weighted and summed over 24 hourly periods to determine the CNEL value. Contours are derived through a series of computerized iterations to provide the 60, 65, and 70 CNEL locations. These contours apply only to first line receptors, as receptors set back further from the noise source will benefit from the shielding provided by intervening land uses. The contours do not assume the presence of any sound walls or barriers.

Table 18 provides the current noise levels adjacent to roadways in the City, assuming a standard sound attenuation of 4.5 dBA with each doubling of distance. As shown therein, the noise levels at 50 feet from the centerline of area roadways currently range from 61.5 to 73.5 CNEL. Roadway noise levels in excess of 65 CNEL could impact nearby sensitive noise receptors along the roadways.



TABLE 18  
EXISTING EXTERIOR NOISE EXPOSURE

Distance to Contours (Ft.) <sup>3</sup>					
Roadway	ADT <sup>1</sup> (Veh./Day)	CNEL <sup>2</sup> @ 50 Feet	70 dBA	65 dBA	60 dBA
<i>Alondra Boulevard</i>					
Shoemaker to Carmenita	22,000	70.5	56	143	320
Carmenita to Marquardt	20,000	70.0	50	130	300
Marquardt to Valley View	27,000	71.5	69	170	368
<i>Bloomfield Avenue</i>					
Excelsior to Rosecrans	17,000	69.5	---	120	278
Imperial to Lakeland	12,000	68.0	---	90	215
Lakeland to Telegraph	12,000	68.0	---	90	215
<i>Carmenita Road</i>					
Alondra to Excelsior	21,000	69.5	---	120	278
Rosecrans to Foster <sup>4</sup>	12,000	68.0	---	90	215
Foster to Imperial <sup>4</sup>	12,000	68.0	---	90	215
Meyer to Lakeland	25,000	69.0	---	110	255
Florence to N/O	23,000	68.5	---	100	235
<i>Florence Avenue</i>					
Rt. 605 to Orr & Day <sup>4</sup>	24,000	70.0	50	130	300
Orr & Day to Pioneer <sup>4</sup>	24,000	70.0	50	130	300
Pioneer to Norwalk <sup>4</sup>	24,000	70.0	50	130	300
Norwalk to Bloomfield <sup>4</sup>	30,000	71.0	62	155	340
Bloomfield to Shoemaker	28,000	70.5	56	143	320
Shoemaker to Carmenita	24,000	70.0	50	130	300
<i>Greenleaf Avenue</i>					
Telegraph to Railroad	9,000	65.0	---	50	130
<i>Imperial Highway</i>					
Bloomfield to Shoemaker	39,000	73.0	90	215	460
Shoemaker to Carmenita <sup>4</sup>	24,000	71.0	62	155	340
Carmenita to E. Limits <sup>4</sup>	24,000	71.0	62	155	340
<i>Lakeland Road</i>					
Norwalk to Shoemaker	6,000	65.0	---	50	130
Shoemaker to Carmenita	4,000	63.5	---	---	100
<i>Los Nietos Road</i>					
Pioneer to Norwalk	7,000	65.5	---	56	143
Norwalk to Painter	12,000	67.0	---	75	185
<i>Marquardt Avenue</i>					
Freeway Drive to Excelsior	3,000	61.5	---	---	69
Rosecrans to Foster	7,000	65.5	---	56	143
Foster to Imperial	5,000	64.0	---	---	110
<i>Norwalk Boulevard</i>					



TABLE 18  
EXISTING EXTERIOR NOISE EXPOSURE

Roadway	ADT <sup>1</sup> (Veh./Day)	CNEL <sup>2</sup> @ 50 Feet	Distance to Contours (Ft.) <sup>3</sup>		
			70 dBA	65 dBA	60 dBA
South of Lakeland	21,000	69.5	---	120	278
Lakeland to Florence	20,000	69.0	---	110	255
Florence to Telegraph	18,000	69.5	---	120	278
Telegraph to Los Nietos	19,000	69.5	---	120	278
Los Nietos to Slauson	21,000	68.5	---	100	235
Slauson to Washington	18,000	67.5	---	83	200
<i>Orr &amp; Day Road</i>					
Florence to Telegraph	16,000	67.0	---	75	185
Telegraph to Pioneer	10,000	65.0	---	50	130
<i>Painter Avenue</i>					
Lakeland to Florence	4,000	62.5	---	---	83
Florence to Telegraph	6,000	64.5	---	---	120
Telegraph to Los Nietos	12,000	66.0	---	62	155
Los Nietos to Carmenita	6,000	64.5	---	---	120
<i>Pioneer Boulevard</i>					
Lakeland to Florence	10,000	66.0	---	62	155
Florence to Telegraph	16,000	68.0	---	90	215
Telegraph to Orr & Day	7,000	64.0	---	---	110
Orr & Day to Los Nietos	10,000	65.0	---	50	130
North of Los Nietos	12,000	66.0	---	62	155
<i>Rosecrans Avenue</i>					
Shoemaker to Carmenita <sup>4</sup>	30,000	71.5	69	170	368
Carmenita to Marquardt	23,000	70.5	56	143	320
Marquardt to Valley View	22,000	70.5	56	143	320
<i>Santa Fe Springs Road</i>					
Telegraph to Los Nietos	14,000	68.5	---	100	235
Los Nietos to Slauson	16,000	68.0	---	90	215
<i>Shoemaker Avenue</i>					
Alondra to Excelsior	10,000	67.0	---	75	185
Imperial to Lakeland	9,000	66.0	---	62	155
Lakeland to Florence	10,000	66.0	---	62	155
Florence to Telegraph	11,000	66.5	---	69	170
<i>Slauson Avenue</i>					
Norwalk to Sorenson <sup>4</sup>	30,000	71.0	62	155	340
Sorenson to Santa Fe Springs	28,000	70.5	56	143	320
<i>Sorenson Avenue</i>					
Washington to Slauson	12,000	68.0	---	90	215
Slauson to Santa Fe Springs	7,000	65.5	---	56	143



**TABLE 18  
EXISTING EXTERIOR NOISE EXPOSURE**

Distance to Contours (Ft.) <sup>3</sup>					
Roadway	ADT <sup>1</sup> (Veh./Day)	CNEL <sup>2</sup> @ 50 Feet	70 dBA	65 dBA	60 dBA
<i>Telegraph Road</i>					
West of Rt. 605 <sup>4</sup>	24,000	69.0	---	110	255
Rt. 605 to Orr & Day <sup>4</sup>	46,000	71.5	69	170	368
Orr & Day to Alburdis	46,000	71.5	69	170	368
Alburdis to Pioneer	44,000	71.5	69	170	368
Pioneer to Norwalk	42,000	73.5	100	235	490
Norwalk to Bloomfield	33,000	72.0	75	185	395
Bloomfield to Painter	27,000	69.5	---	120	278
Painter to Carmenita	30,000	70.0	50	130	300
Carmenita to Gunn <sup>4</sup>	24,000	69.0	---	110	255
<i>Valley View Avenue</i>					
Route 5 to Alondra <sup>4</sup>	24,000	71.0	62	155	340
Alondra to San Cristobal <sup>4</sup>	30,000	71.5	69	170	368
San Cristobal to Rosecrans	26,000	71.0	62	155	340
<i>Washington Boulevard</i>					
Norwalk to Broadway <sup>4</sup>	24,000	70.0	50	130	300
Broadway to E. Limits <sup>4</sup>	30,000	71.0	62	155	340
1. ADT = Average Daily Traffic volume.					
2. CNEL = Community Noise Equivalent Level. Measured at 50 feet from roadway centerline.					
3. Measured from roadway centerline. R/W means contour is located within the roadway right-of-way.					
4. Existing traffic volume exceeds Level of Service C capacity. Therefore, Level of Service C Capacity volume has been used as a "worst case" analysis.					

### Railroads

The Southern Pacific rail line passes through the western portion of the City adjacent to the boundary of the residential area. Currently, there are about fifteen unscheduled freight trains per day on this line running intermittently throughout a 24-hour day. There are also typical operations at the Los Nietos Yard, including freight car switching. Homes in the northern portion of the city are buffered from the train noise by existing soundwalls. A 24-hour noise measurement at a residence adjacent to the Los Nietos yard indicates an existing CNEL of 58 dB. The main line in the central portion of the city passes through commercial and industrial areas only and, therefore, does not generate a significant impact. Homes in the southern portion of the City are not buffered by soundwalls. A 24-hour measurement in this area indicates an existing CNEL of approximately 66 dB.

The AT & SF Rail Company has a line running through the commercial/industrial portion of Santa Fe Springs. Traffic consists of both freight and passenger trains. Currently there are about

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fifty-eight trains per day passing through Santa Fe Springs throughout a 24-hour day. Due to the location of the tracks, the trains' impact on local residences is minimal.

Wyle Laboratories train noise methodology was used to determine noise associated with railway lines in Santa Fe Springs. Noise exposure contours along railway tracks are determined from the number and type of trains using the line, the magnitude and duration of each train pass, and the time of the operation. The distance from each railway line to the 60, 65, and 70 CNEL contours are shown in Table 19.

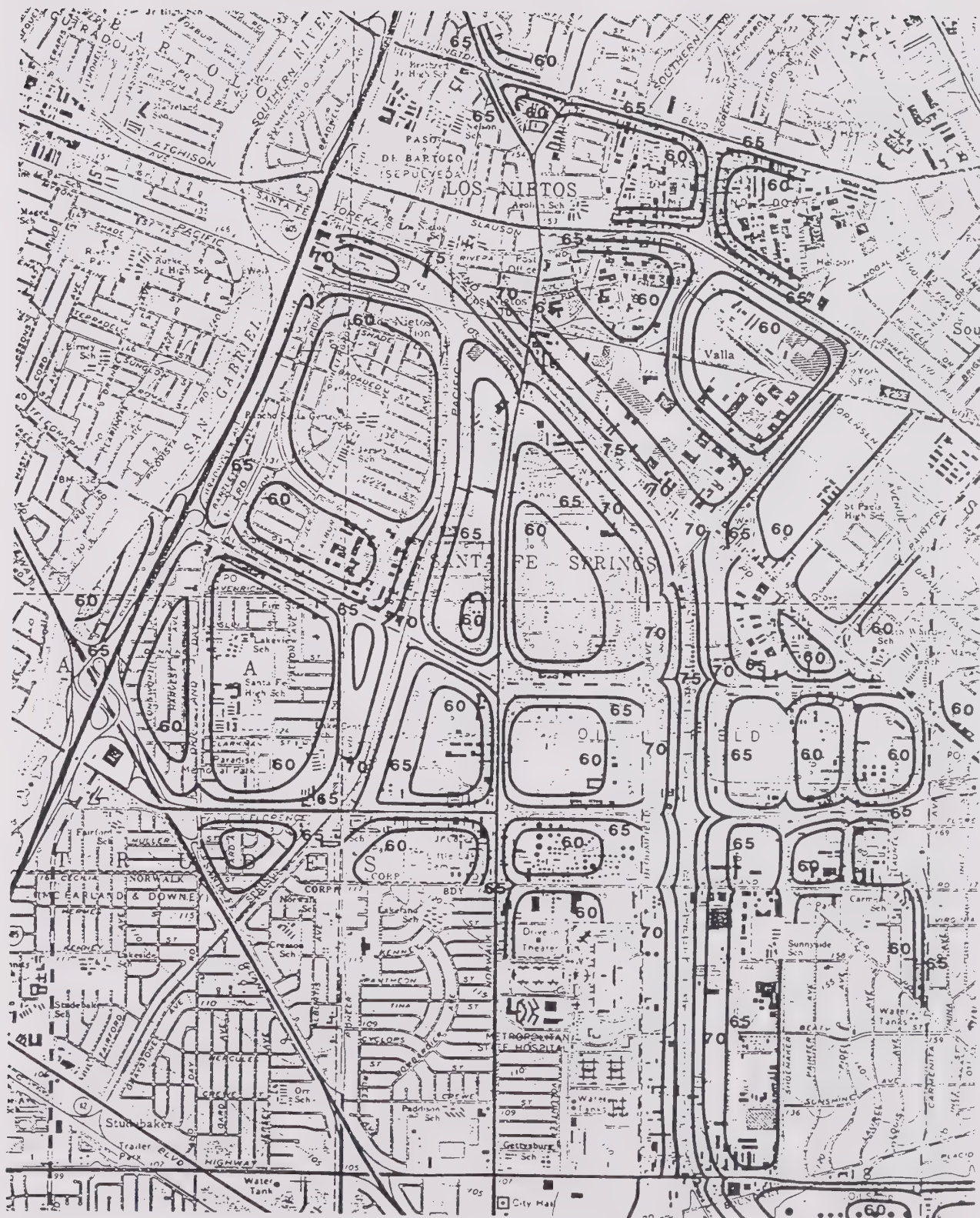
TABLE 19 RAILROAD OPERATIONS DISTANCE TO UNMITIGATED CNEL CONTOURS			
Distance to Tracks	CNEL, dB		
	Freight Trains	Passenger Trains	Composite Trains
Southern Pacific Rail (within Santa Fe Springs)			
200 feet	70	-	70
450 feet	65	-	65
950 feet	60	-	60
AT & SF Rail Line (within Santa Fe Springs)			
150 feet	75	65	75
350 feet	70	60	70
750 feet	64	55	65
1,550 feet	59	51	60

### 3. Community Noise Contours

The noise environment for the City of Santa Fe Springs can be described using noise contours developed for the major noise sources within the area. Noise contours represent lines of equal noise exposure. Figures 25 and 26 present the noise contours for the City of Santa Fe Springs for existing conditions in 1992. The contours shown on the maps identify the 60, 65, 70 and 75 dBA CNEL for both train and motor vehicle noise. Full size maps are available for inspection at the Santa Fe Springs Department of Planning and Development. The distances to the contour lines are tabulated in the Noise Element Technical Memorandum prepared by J.J. Van Houten and Associates, Inc. (December 1993).



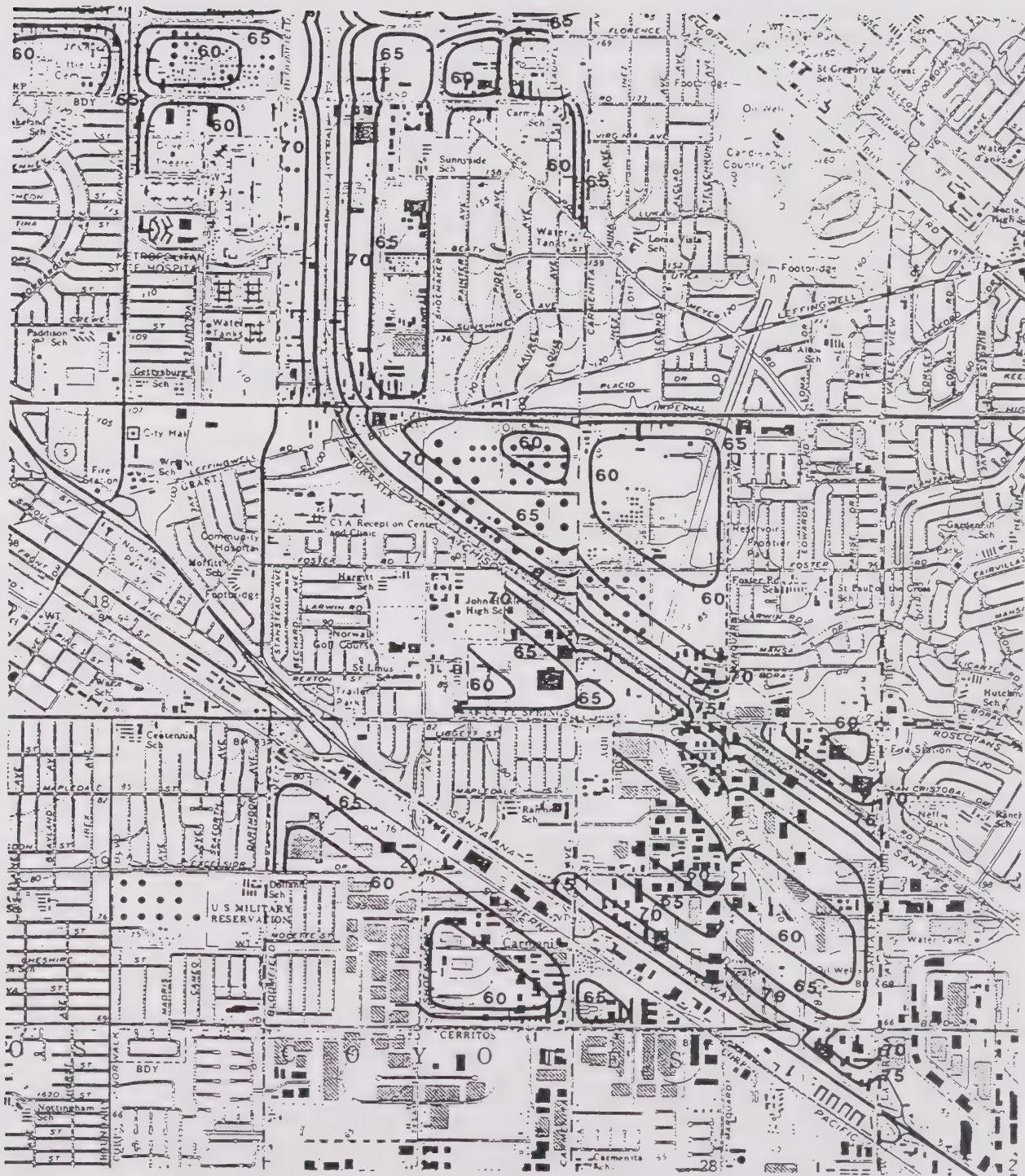




# EXISTING (1992) COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) CONTOURS (NORTH)







# EXISTING (1992) COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) CONTOURS (SOUTH)







## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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The noise contours for the City of Santa Fe Springs were developed based upon existing traffic conditions, train operations, significant point sources and environmental conditions. The assumptions and methods used to develop the contours are explained in detail in the Technical Memorandum.

The noise contours should be used as a guide for planning. The 60 dB CNEL contour defines the noise impact area. Any proposed noise sensitive land use (i.e., residential, hospitals, schools and churches) within this area should be evaluated on a project specific basis since the project may require mitigation to meet City or State (Title 24) standards. In this area, new or expanded noise sensitive developments will be permitted only if appropriate mitigations measures are included such that the City and State standards are achieved.

### **4.4.2 Environmental Impacts and Mitigation Measures**

The major source of future noise in the City will be automobiles and trucks traveling on existing and proposed roadways, and transportation corridors in the City. Other future sources of noise include increases in freight train activity from regional transportation needs and construction noise, which would occur as a result of the proposed development throughout the City. By identifying future noise levels citywide, compatibility between land uses and adjacent roadways can be determined.

The proposed General Plan contains a Noise Element that establishes community noise standards for land use compatibility. These standards are identified within two Tables, Noise/Land Use Compatibility Matrix, and Interior and Exterior Noise Standards for Transportation Impacts on Adjacent Land Uses, reproduced herein as Tables 20 and 21. The standards and criteria shown in Figure 27 and Table 21 specify acceptable limits of noise for various land uses throughout the City. These standards and criteria will be incorporated into the land use planning process to reduce future noise and land use incompatibilities. Figure 27 presents criteria for assessing the compatibility of proposed land uses with the noise environment. These criteria are the basis for the specific noise standards presented in Table 27 and represent City policies related to land uses and acceptable noise levels. These two tables are the primary tools that allow the City to ensure integrated planning for compatibility between land uses and outdoor noise.

The noise levels presented in Figure 27 represent exterior noise levels. The primary purpose of the noise compatibility matrix is to identify potential conflicts between proposed land uses and the noise environment. The matrix is usually used at the General Plan or Zoning level of approvals. If a project falls within Zone A or Zone B, it is considered compatible with the noise environment. Zone A implies that no mitigation will be needed. Zone B implies that minor soundproofing of the structure may be needed to be compatible, which should be engineered prior to issuance of building permits. Zone C shows that substantial noise mitigation will be necessary, such as construction of noise barriers and substantial building sound insulation. However, projects in Zone C can be successfully mitigated. The project may be approved and



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then mitigated as necessary to achieve City standards (Table 20) before issuance of grading permits, building permits, or other appropriate milestones.

**TABLE 20  
INTERIOR AND EXTERIOR NOISE STANDARDS  
FOR TRANSPORTATION IMPACTS ON ADJACENT LAND USES**

Land Use	Noise Standards <sup>1</sup>	
	Interior <sup>2,3</sup>	Exterior
Residential -- Single family, multifamily, duplex, mobile home	CNEL 45 dBA	CNEL 65 dBA <sup>4</sup>
Residential -- Transient lodging, hotels, motels, nursing homes, hospitals	CNEL 45 dBA	CNEL 65 dBA <sup>4</sup>
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	Leq(12) 45 dBA	--
Schools	Leq(12) 45 dBA	Leq(12) 67 dBA <sup>5</sup>
General offices, reception, clerical, etc.	Leq(12) 50 dBA	--
Bank lobby, retail store, restaurant, typing pool, etc.	Leq(12) 55 dBA	--
Manufacturing, kitchen, warehousing, etc.	Leq(12) 60 dBA	--
Parks, playgrounds	--	CNEL 65 dBA <sup>5</sup>
Golf courses, outdoor spectator sports, amusement parks	--	CNEL 75 dBA <sup>5</sup>
<ol style="list-style-type: none"> <li>1. CNEL: Community Noise Equivalent Level. Leq(12): The A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).</li> <li>2. Noise standard with windows closed. Mechanical ventilation shall be provide per UBC requirements to provide a habitable environment.</li> <li>3. Indoor environment excluding bathrooms, toilets, closets and corridors.</li> <li>4. Outdoor environment limited to rear yard of single family homes, multifamily patios and balconies (with a depth of 6' or more) and common recreation areas.</li> <li>5. Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.</li> </ol>		

As shown in Table 20, residential properties are assigned exterior noise standards of 45 dBA from 10 p.m. to 7 a.m. and 50 dBA from 7 a.m. to 10 p.m., which cannot be exceeded for a cumulative period of more than thirty minutes in any hour. The exterior noise standard plus 20 dBA is not to be exceeded for any period of time. Residential properties have a 24-hour interior noise standard of 45 dBA, which cannot be exceeded for a period of more than thirty minutes

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in any hour. Exempt activities include school-related events, occasional public events, and emergency-related noise. Schools, hospitals and churches have the same nighttime standards as residential areas identified in the Ordinance.

TABLE 21 SANTA FE SPRINGS NOISE ORDINANCE INTERIOR AND EXTERIOR STANDARDS		
Land Use	Noise Level Not to Be Exceeded	Maximum Allowable Duration of Exceedance
BETWEEN 7:00 A.M. AND 10:00 P.M.		
Residential	45/50 <sup>1</sup> dBA	30 minutes/hour
	50/55 <sup>1</sup> dBA	15 minutes/hour
	55/60 <sup>1</sup> dBA	5 minutes/hour
	60/65 <sup>1</sup> dBA	1 minute/hour
	65/70 <sup>1</sup> dBA	for any period of time
BETWEEN 10:00 P.M. AND 7:00 A.M.		
Residential	45 dBA	30 minutes/hour
	50 dBA	15 minutes/hour
	55 dBA	5 minutes/hour
	60 dBA	1 minute/hour
	65 dBA	for any period of time
<sup>1</sup> Represents interior/exterior standards.		



# Land Use Category

Residential – Single family,  
multifamily, duplex

Residential – Mobile homes

Transient Lodging – Motels, hotels

Schools, Libraries, Churches,  
Hospitals, Nursing Homes

Auditoriums, Concert Halls,  
Amphitheaters, Meeting Halls

Sports Arenas, Outdoor Spectator  
Sports, Amusement Parks

Playgrounds, Neighborhood Parks

Golf Courses, Riding Stables,  
Cemeteries

Office and Professional Buildings

Commercial Retail, Banks,  
Restaurants, Theaters

Industrial, Manufacturing, Utilities,  
Wholesale, Service Stations

Agriculture

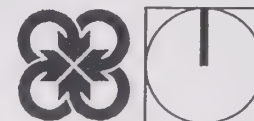
		CNEL, dB					
		55	60	65	70	75	80
Residential – Single family, multifamily, duplex	A	A	B	B	C		
Residential – Mobile homes	A	A	B	C	C		
Transient Lodging – Motels, hotels	A	A	B	B	C	C	
Schools, Libraries, Churches, Hospitals, Nursing Homes	A	A	B	C	C		
Auditoriums, Concert Halls, Amphitheaters, Meeting Halls	B	B	C	C			
Sports Arenas, Outdoor Spectator Sports, Amusement Parks	A	A	A	B	B		
Playgrounds, Neighborhood Parks	A	A	A	B	C		
Golf Courses, Riding Stables, Cemeteries	A	A	A	A	B	C	C
Office and Professional Buildings	A	A	A	B	B	C	
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Wholesale, Service Stations	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

# Legend

- A** NORMALLY ACCEPTABLE  
Specified land use is satisfactory based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
- B** CONDITIONALLY ACCEPTABLE  
New construction or development should be undertaken only after a detailed analysis of the noise requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice
- C** NORMALLY UNACCEPTABLE  
New construction or development should generally be discouraged. If it does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
- CLEARLY UNACCEPTABLE  
New construction or development should generally not be undertaken.

Source: Taken in part from *Aircraft Noise Impact Planning Guidelines for Local Agencies*, U.S. Dept. of Housing and Urban Development, TE/NA-472, November 1972.

## NOISE/LAND USE COMPATIBILITY MATRIX







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Table 20 provides interior and exterior noise standards for nine separate land use categories. The more stringent standards apply to those uses considered sensitive by the City: residential dwellings, lodging, nursing homes, hospitals, offices, churches, libraries, theaters, public meeting areas, schools and parks/playgrounds. With the exception of parks/playgrounds where interior uses do not exist, interior standards are limited to 45 dBA CNEL during use hours. Exterior standards for these sensitive receptors are identified as 65 dBA CNEL for areas of frequent use such as rear residential yards, balconies, playgrounds and picnic areas. Schools are allowed a slightly higher exterior standard at 67 dBA accounting for the lowered sensitivity of children in a playground setting where they are typically generators of noise. Land use categories considered less sensitive to noise include offices, commercial facilities and industrial areas. These uses do not have exterior standards as they generally have limited outdoor activities.

The most effective method to control community noise impacts from non-transportation noise sources is through application of the noise ordinance. The proposed Noise Element states that the City will review its current ordinance for adequacy and will continue its enforcement.

### A. Noise Ordinance

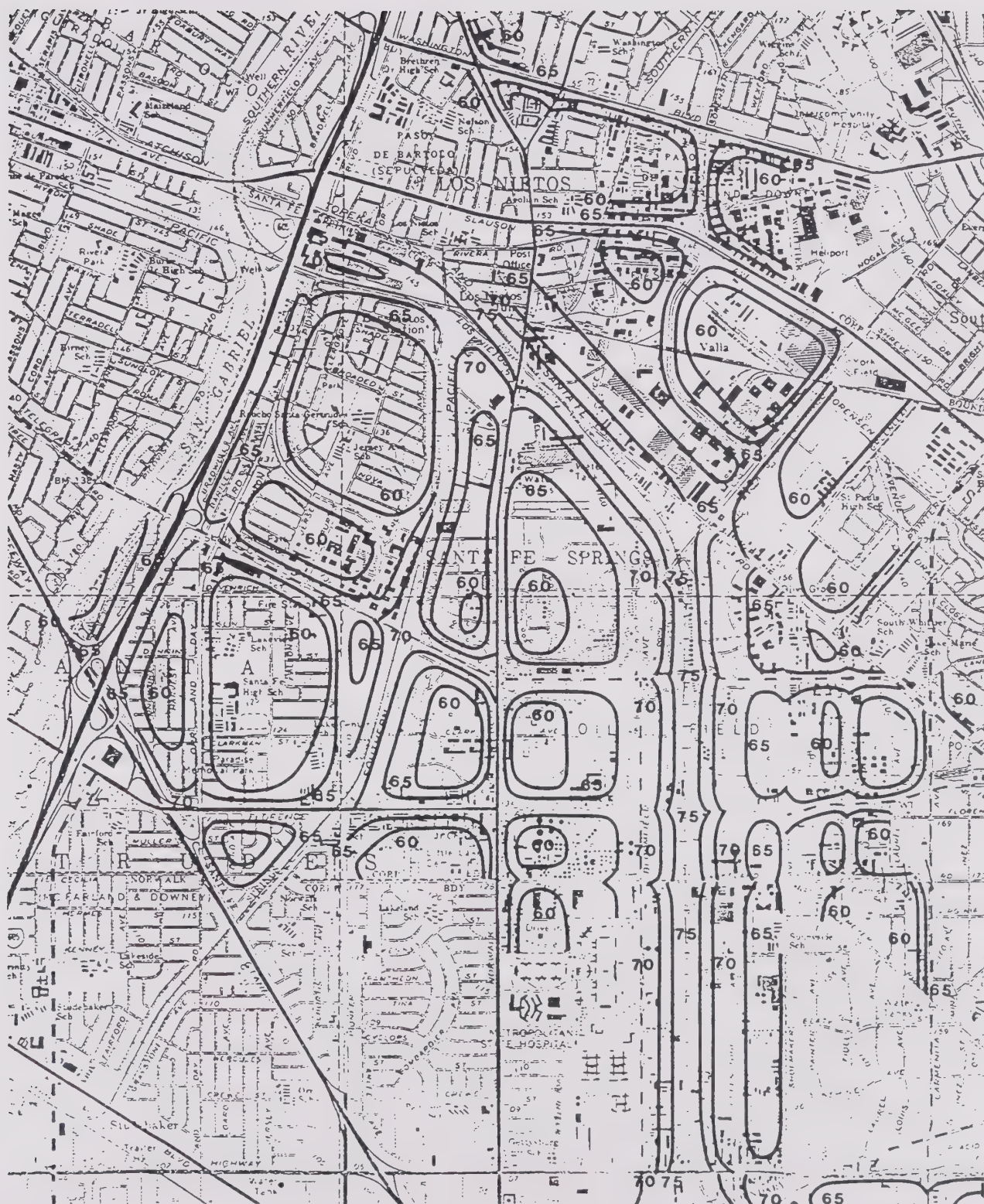
The Noise Control Ordinance (No. 712, Chapter 7) contains noise standards and special provisions to control unnecessary, excessive and annoying sounds. This ordinance is used to control noise emanating from or onto established land uses. Combined with the standards provided in Figure 27 and Table 20, the ordinance ensures long-term compatibility between the ambient noise environment and sensitive residential planning uses.

The City's Director of Planning and Development may require an acoustical analysis according to Chapter 52.37 of the City ordinance if it is suspected that a development project may not conform with permitted noise level standards. Special provisions, waivers, and vibrations are also described in this ordinance. Additionally, property construction noise cannot take place between the hours of 7:00 p.m. and 7:00 a.m. when sensitive land uses could be greatly impacted.

### **IMPACT: LONG-TERM NOISE GENERATION**

**Impact Analysis:** Noise levels on roadways in the City were quantified for build-out of the Proposed General Plan land uses with Special Study Area Scenario 1 using traffic conditions based on the trip generating characteristics of future land uses. Figures 28 and 29 indicate the future 75 dBA, 70 dBA, 65 dBA and 60 dBA noise contours within the City. The exterior noise exposure table for these conditions is provided in Appendix C. Build-out transportation noise levels at 50 feet from the roadway centerline will range from 62.5 CNEL along Painter Avenue to a high of 73.5 CNEL along both Telegraph Road and Imperial Highway. The 70 dBA contour will be located within the right-of-way along 36 of the 72 links analyzed for buildout conditions.



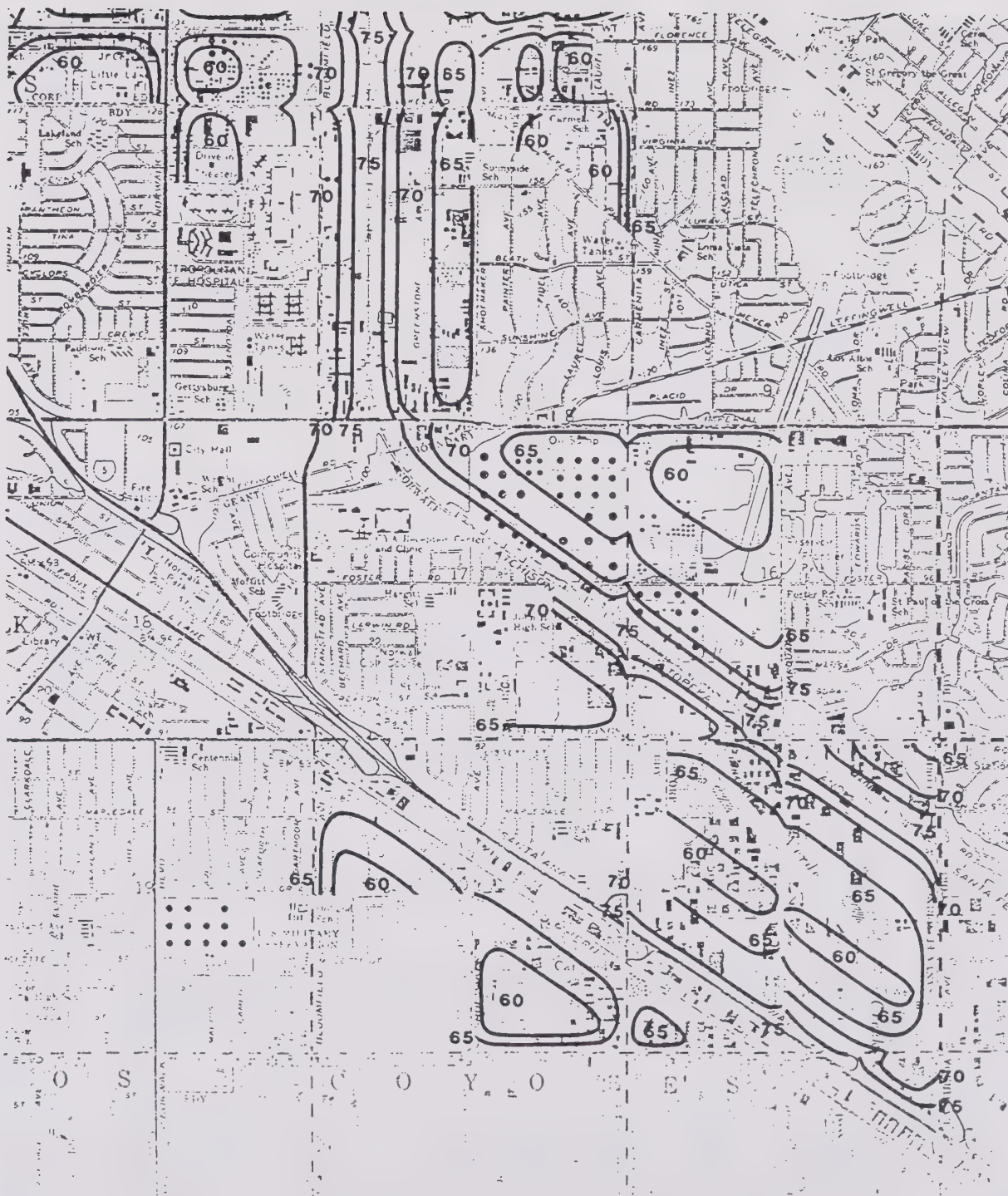


## FUTURE NOISE CONTOURS (NORTH)









## FUTURE NOISE CONTOURS (SOUTH)





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Noise impacts can be broken down into three categories. The first is "audible" impacts, which refer to increases in noise level that are perceptible to humans. Audible increases in noise level generally refer to a change of 3.0 dBA since this level was found to be barely perceptible in exterior environments. The second category, "potentially audible," references a change in noise level between 1.0 dBA and 3.0 dBA. This range of noise levels was found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dBA that are "inaudible" to the human ear. Only "audible" changes in noise level are considered significant.

Changes in noise level between the future and existing noise environment, as shown in Table 22, range from a decrease of 0.5 dBA to an increase of 2.0 dBA. The increases associated with these roadways are primarily related to the amount of new development occurring in the area, the increase in regional traffic through the city, and the current low traffic volumes on some roadways. An increase in excess of 3.0 dBA, considered "audible", is not projected on roadways in the city. Ten of the links have "potentially audible" increases in noise levels, and the majority of the links (53) will have "inaudible" increases. The most severe increase is associated with Marquardt Avenue between Freeway Drive and Excelsior, which experiences the 2.0 dBA increase.

TABLE 22  
GENERAL PLAN RELATED NOISE CHANGE  
(CNEL @ 50 Feet)

Roadway	Existing	Future	Increase
<i>Alondra Boulevard</i>			
Shoemaker to Carmenita	70.5	70.5	---
Carmenita to Marquardt	70.0	70.0	---
Marquardt to Valley View	71.5	71.5	---
<i>Bloomfield Avenue</i>			
Excelsior to Rosecrans	69.5	70.0	0.5
Imperial to Lakeland	68.0	68.5	0.5
Lakeland to Telegraph	68.0	69.0	1.0
<i>Carmenita Road</i>			
Alondra to Excelsior	69.5	69.5	---
Rosecrans to Foster	68.0	68.0	---
Foster to Imperial	68.0	68.0	---
Meyer to Lakeland	69.0	70.0	1.0
Florence to N/O	68.5	70.0	1.5
<i>Florence Avenue</i>			
Rt. 605 to Orr & Day	70.0	70.0	---
Orr & Day to Pioneer	70.0	70.0	---
Pioneer to Norwalk	70.0	70.0	---
Norwalk to Bloomfield	71.0	71.0	---
Bloomfield to Shoemaker	70.5	71.0	0.5



# 4 ENVIRONMENTAL IMPACT ANALYSIS

TABLE 22  
GENERAL PLAN RELATED NOISE CHANGE  
(CNEL @ 50 Feet)

Roadway	Existing	Future	Increase
Shoemaker to Carmenita	70.0	70.0	—
<i>Greenleaf Avenue</i>			
Telegraph to Railroad	65.0	65.0	—
<i>Imperial Highway</i>			
Bloomfield to Shoemaker	73.0	73.5	0.5
Shoemaker to Carmenita	71.0	71.0	—
Carmenita to E. Limits	71.0	71.0	—
<i>Lakeland Road</i>			
Norwalk to Shoemaker	65.0	65.0	—
Shoemaker to Carmenita	63.5	63.5	—
<i>Los Nietos Road</i>			
Pioneer to Norwalk	65.5	65.5	—
Norwalk to Painter	67.0	67.0	—
<i>Marquardt Avenue</i>			
Freeway Drive to Excelsior	61.5	63.5	2.0
Rosecrans to Foster	65.5	66.0	0.5
Foster to Imperial	64.0	65.0	1.0
<i>Norwalk Boulevard</i>			
South of Lakeland	69.5	71.0	1.5
Lakeland to Florence	69.0	70.0	1.0
Florence to Telegraph	69.5	71.0	1.5
Telegraph to Los Nietos	69.5	70.5	1.0
Los Nietos to Slauson	68.5	68.5	—
Slauson to Washington	67.5	68.5	1.0
<i>Orr &amp; Day Road</i>			
Florence to Telegraph	67.0	67.0	—
Telegraph to Pioneer	65.0	65.5	0.5
<i>Painter Avenue</i>			
Lakeland to Florence	62.5	62.5	—
Florence to Telegraph	64.5	64.5	—
Telegraph to Los Nietos	66.0	66.0	—
Los Nietos to Carmenita	64.5	64.5	—
<i>Pioneer Boulevard</i>			
Lakeland to Florence	66.0	66.0	—
Florence to Telegraph	68.0	67.5	-0.5
Telegraph to Orr & Day	64.0	64.0	—
Orr & Day to Los Nietos	65.0	65.5	0.5
North of Los Nietos	66.0	66.5	0.5
<i>Rosecrans Avenue</i>			

## 4 ENVIRONMENTAL IMPACT ANALYSIS

TABLE 22  
GENERAL PLAN RELATED NOISE CHANGE  
(CNEL @ 50 Feet)

Roadway	Existing	Future	Increase
Shoemaker to Carmenita	71.5	71.5	---
Carmenita to Marquardt	70.5	71.0	0.5
Marquardt to Valley View	70.5	71.0	0.5
<i>Santa Fe Springs Road</i>			
Telegraph to Los Nietos	68.5	69.0	0.5
Los Nietos to Slauson	68.0	68.5	0.5
<i>Shoemaker Avenue</i>			
Alondra to Excelsior	67.0	67.0	---
Imperial to Lakeland	66.0	66.0	---
Lakeland to Florence	66.0	66.0	---
Florence to Telegraph	66.5	66.5	---
<i>Slauson Avenue</i>			
Norwalk to Sorenson	71.0	71.0	---
Sorenson to Santa Fe Springs	70.5	71.0	0.5
<i>Sorenson Avenue</i>			
Washington to Slauson	68.0	68.0	---
Slauson to Santa Fe Springs	65.5	65.5	---
<i>Telegraph Road</i>			
West of Rt. 605	69.0	69.0	---
Rt. 605 to Orr & Day	71.5	71.5	---
Orr & Day to Alburtis	71.5	71.5	---
Alburtis to Pioneer	71.5	71.5	---
Pioneer to Norwalk	73.5	73.5	---
Norwalk to Bloomfield	72.0	72.5	0.5
Bloomfield to Painter	69.5	70.0	0.5
Painter to Carmenita	70.0	70.0	---
Carmenita to Gunn	69.0	69.0	---
<i>Valley View Avenue</i>			
Route 5 to Alondra	71.0	71.0	---
Alondra to San Cristobal	71.5	71.5	---
San Cristobal to Rosecrans	71.0	71.0	---
<i>Washington Boulevard</i>			
Norwalk to Broadway	70.0	70.0	---
Broadway to E. Limits	71.0	71.0	---



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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Future increases in operations on the Southern Pacific rail line are expected to be minimal. However, the impact of railway operations is not only determined by the number of train passes, but by the time at which they occur. Therefore, an increase in nighttime operations will have a detrimental effect on the quality of life for people living in the vicinity of the tracks. No changes in nighttime operations have been identified.

The AT & SF Rail Company has a line running through the commercial/industrial portion of Santa Fe Springs. By the year 2012, the number of trains passing through Santa Fe Springs is expected to increase from fifty-eight trains per day to about one hundred thirty-eight trains per day. Due to the location of the tracks, the trains' future impact on local residences is expected to continue to be insignificant. However, future impacts will depend on the location of new noise sensitive developments relative to the railroad. These projects should not be permitted within the 65 dB contour. The future rail contours are indicated in Figures 28 and 29.

### *Policies Included in the General Plan:*

#### Noise Element

- 1.1 Encourage the Southern Pacific rail company to minimize the level of noise produced by train movements within the City by using improved vehicle system technology and by modifying their schedule to avoid train movements during noise-sensitive times.
- 1.2 Encourage, where feasible, noise mitigation measures, such as noise barriers and realignments, in the design and construction of new freeway projects in the City of Santa Fe Springs.
- 1.3 Continue to work with the I-5 Consortium to ensure that the widening of the I-f freeway, including any type of High Occupancy Vehicle Lanes, does not violate any City noise standards and to require the mitigation, to City standards, of any violations.
- 1.4 Investigate the possibility of using the City's Commercial Enforcement Inspector to enforce the State's Vehicle Code noise standards within the City.
- 1.5 Consider noise impacts to residential neighborhoods and other noise sensitive land uses when designating truck routes and major circulation corridors.
- 1.6 Continue to work with the County to identify bus routes that meet public transportation needs while minimizing noise impacts in residential and other noise sensitive areas.
- 1.7 Encourage the use of alternative fuel vehicles in the provision of public transportation that will result in reduced noise impacts.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- 1.8 Develop a program to assist with the retrofitting of existing dwelling units adjacent to the freeways, railroads and arterials where the City's exterior CNEL standard of 65 dB is exceeded.
- 1.9 Continue the inspection of garbage trucks that serve the City to ensure that they are in compliance with City noise standards.

### **Strategy 1**

Ensure the employment of noise mitigation measures in the design of roadway improvement projects consistent with funding capability. Support efforts by the California Department of Transportation, the County and others to provide for acoustical protection of existing noise sensitive land uses affected by these projects. Consideration of soundwalls will be requested as part of any Caltrans and County roadway project.

### **Strategy 2**

Continue to support the efforts of the I-5 Consortium in its plans to widen the I-5 freeway within the existing freeway's right of way. Through the consortium, require that increased noise caused by any potential widening, both in residential and commercial areas, including an elevated High Occupancy Vehicle lane, be mitigated to City noise standards, at Caltrans' expense.

### **Strategy 3**

Encourage the use of walls, berms and other noise attenuation measures in design of new residential and other noise sensitive land uses that are next to major roads, rail lines, commercial, or industrial areas.

### **Strategy 4**

Provide for evaluation of truck and bus movements and routes in the City to provide effective separation from residential or other noise sensitive land uses.

### **Strategy 5**

Use the Commercial Enforcement Officer from the City's Police Services Center to enforce the State Motor Vehicle noise standards for cars, trucks, and motorcycles through coordination with the California Highway Patrol and local law enforcement agencies.

### **Strategy 6**

The City will encourage the reduction of train noise by requesting that the Southern Pacific rail company use welded track in good repair throughout the City and maintain all street crossings in good condition.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### Circulation Element

- 1.7 Design local and collector streets to discourage their use as through routes.

#### **Additional Mitigation Measures Required:**

- 4.4-1 Consistent with Strategy 1 and 2, analyze the design and location of all future transportation improvements and recommend noise mitigation in the response to the Notice of Preparations and/or Draft Environmental Impact Reports.
- 4.4-2 Where mitigation of capacity enhancing roadway improvements is not feasible to reduce noise to less than significant levels, promoting alternative transportation modes, such as walking, bicycling and transit within sensitive areas should be encouraged.

*Level of Significance After Mitigation:* Less than significant.

#### **IMPACT: POTENTIAL LAND USE CONFLICTS**

*Impact Analysis:* Information about the existing and buildout noise environment within the City of Santa Fe Springs should be integrated into future land use planning decisions. The Element presents the existing and buildout noise environments so that the City will include noise impact considerations in development programs. Noise and land use compatibility guidelines are presented, as well as noise standards for new developments. Community noise considerations are to be incorporated into land use planning. These measures are intended to prevent future noise and land-use incompatibilities.

#### **Policies Included in the General Plan:**

### Noise Element

- 2.1 Adopt planning guidelines that establish acceptable noise standards for various land uses throughout the City of Santa Fe Springs as shown in Table 21.
- 2.2 Apply the State's noise insulation standards to the conversion of existing apartments into condominiums.
- 2.3 Use noise/land use compatibility standards (Table 20) as a guide for future planning and development.
- 2.4 Review proposed projects in terms of compatibility with nearby noise-sensitive land uses with the intent of reducing noise impacts.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- 2.5 Continue to require new commercial/industrial operations located in proximity to existing or proposed noise sensitive areas to incorporate noise mitigation into the project design.
- 2.6 Consider replacing a significant noise source with non-noise generating land uses when plans for future use of areas are developed.
- 2.7 Using noise contours and other industry methods, identify areas within the City that are out of compliance with current noise standards and form Noise Study Zones which would qualify for special planning and programs in the mitigation of this problem.
- 2.8 Retrofit any properties acquired by the City that are within a Noise Study Zone to satisfy current noise standards.

### **Strategy 7**

Enforce standards that specify acceptable limits of noise for various land uses throughout the City. Table 4.4E provides criteria used to assess the compatibility of proposed land uses with the noise environment. These criteria are the basis of specific noise standards. These standards, presented in Table 4.4F, define City policy related to land uses and acceptable noise levels.

### **Strategy 8**

Incorporate noise reduction features during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses. New developments will be required to comply with the standards contained in the Noise Element, as well as the City's noise ordinance standards.

### **Strategy 9**

Enforce the provisions of the State of California Noise Insulation Standards (California Administrative Code, Title 24) that specify that the indoor noise levels for multifamily residential living spaces shall not exceed 45 dB CNEL (or Ldn) due to the combined effect of all noise sources. The State requires implementation of this standard when the outdoor noise levels exceed 60 dB CNEL (or Ldn). The noise contour maps can be used to decide when this standard needs to be addressed. The code requires that this standard be applied to all new hotels, apartment houses and dwellings other than detached single family dwellings. The City will also, as a matter of policy, apply this standard to single family dwellings and condominium conversion projects.

### **Land Use Element**

- 15.6 Develop and apply methods to reduce the noise and other adverse effects of freeways and railroads adjacent to residential areas (Land Use Policy 15.6).

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### ***Additional Mitigation Measures Required:***

The following mitigation must be incorporated into City processes to reduce impacts:

- 4.4-3 Ensure that the Zoning Regulation fully integrates the policies adopted in the Noise Element.
- 4.4-4 Require noise studies for development projects within the future 60 CNEL contour identified in Figures 4.4F and 4.4G.

***Level of Significance After Mitigation:*** Less than significant.

### ***IMPACT: NON-TRANSPORTATION NOISE INCREASES***

***Impact Analysis:*** People, and noise sensitive areas, must be protected from excessive noise generated by non-transportation sources including commercial and industrial centers. These impacts are most effectively controlled through the enforcement of a City Noise Ordinance.

### ***Policies Included in the General Plan:***

#### **Noise Element**

- 3.1 Conduct an annual review of Santa Fe Springs' Noise Ordinance, and City policies and regulations affecting noise.
- 3.3 Require City departments to observe state and federal occupational safety and health noise standards.
- 3.4 Continue to require new equipment and vehicles purchased by the City to comply with noise performance standards consistent with available noise reduction technology.

#### **Strategy 10**

Review the City's noise ordinance for adequacy and implement changes as needed to address the City's current needs. Continue to apply the Noise Ordinance to ensure that City residents are not exposed to excessive noise levels from stationary sources. The ordinance protects people from non-transportation related noise sources such as music, machinery and pumps, air conditioners, compressors and truck traffic on private property.



### **Strategy 11**

Require that any proposed development projects show compliance with the City's Noise Element and Ordinance before approval.

### **Strategy 12**

Require construction activity to comply with limits established in the City's Noise Ordinance.

### **Strategy 13**

Designate the Department of Planning and Development to act as the noise enforcement coordinator. This will ensure the continued operation of noise enforcement efforts of the City.

### **Strategy 14**

Limit delivery hours for businesses with loading areas or docks fronting, siding, bordering or gaining access on driveways adjacent to noise sensitive areas. Exemption from this restriction shall be based solely on attaining full compliance with the nighttime limits of the noise ordinance.

### **Strategy 15**

Require that the City comply with local, state and federal noise standards. Specifically, require all City departments to comply with the state and federal OSHA noise standards. Any new equipment or vehicle purchases will comply with city, state, and federal noise standards.

***Additional Mitigation Measures Required:*** None

***Level of Significance After Mitigation:*** Less than significant.

### ***IMPACT: CONSTRUCTION NOISE***

***Impact Analysis:*** Short-term acoustic impacts are those associated with construction activities necessary to implement the land uses proposed in the General Plan. The noise levels will be higher than the ambient noise levels in the project area but will subside once construction is completed.

Two types of noise impacts should be considered during the construction phase. First, the transport of workers and equipment to each construction site will incrementally increase noise levels along site access roadways. The increase should not exceed 1.0 dBA when averaged over a 24-hour period, and should therefore not impact adjacent noise receptors. The other impact is related to noise generated by the construction operations on-site.



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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Construction activities are carried out in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These construction phases would change the character of the noise levels surrounding the construction site as work progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow noise ranges to be categorized by work phase. Figure 30 illustrates typical construction equipment noise ranges at a distance of 50 feet.

### *Policies Included in the General Plan:*

#### Noise Element

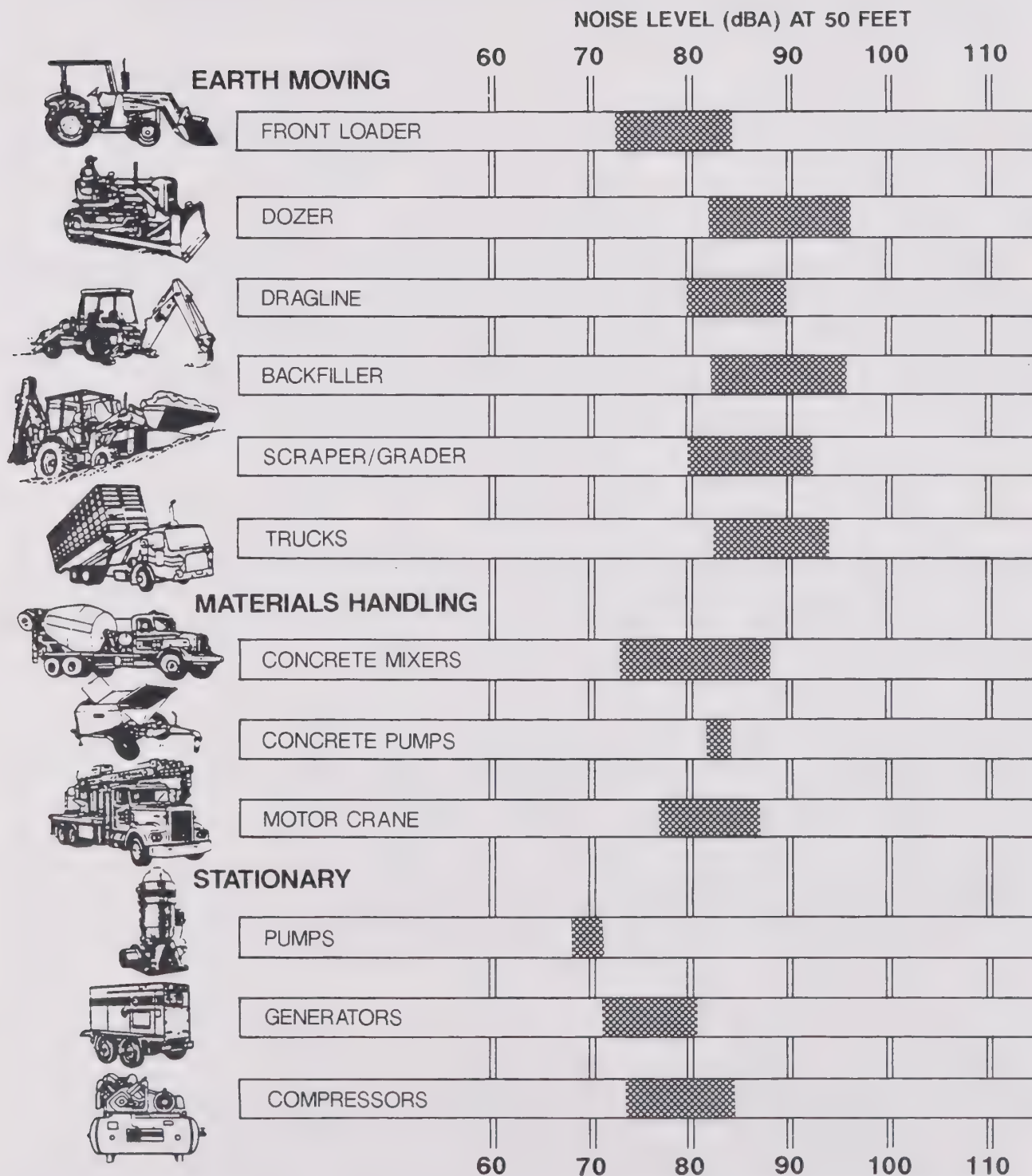
10. Continue to minimize the impacts of construction noise on adjacent land uses through limiting the permitted hours of activity.
11. Require construction activity to comply with limits established in the City's Noise Ordinance.

### *Additional Mitigation Measures Required:*

The following measures should be incorporated as conditions of approval on all transportation improvements and development projects.

- 4.4-5 All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers identified from contractor maintenance records.
- 4.4-6 To the extent feasible, stationary equipment shall be placed such that emitted noise is directed away from nearby residences, schools, convalescent hospitals and community centers, or to a combination of these receptors.
- 4.4-7 Equipment staging areas shall be located to create the greatest feasible distance between noise sources and sensitive receptors during construction activities and shall be identified in this way on construction plans.

*Level of Significance After Mitigation:* Less than significant.



SOURCE: EPA, 1971; "NOISE FROM CONSTRUCTION EQUIPMENT AND OPERATIONS, BUILDING EQUIPMENT, AND HOME APPLIANCES". NTID300.1

## CONSTRUCTION EQUIPMENT NOISE LEVELS





## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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### **4.5 Hydrology/Flooding**

#### **4.5.1 Environmental Setting**

##### **A. Water Resources**

The San Gabriel River, once a source of irrigation in Santa Fe Springs, runs north to south from the San Gabriel Mountains to the Pacific Ocean. The river parallels the western border of the City along the San Gabriel Freeway. It is now a flood control channel maintained by the Los Angeles County Flood Control District and is used as a spreading ground to replenish the Montebello Forebay. Additionally, Coyote Creek runs along the eastern City border and cuts through both the northern and southern portions of the City. It too is mainly used for drainage and flood control.

##### **B. Dam Inundation Hazards**

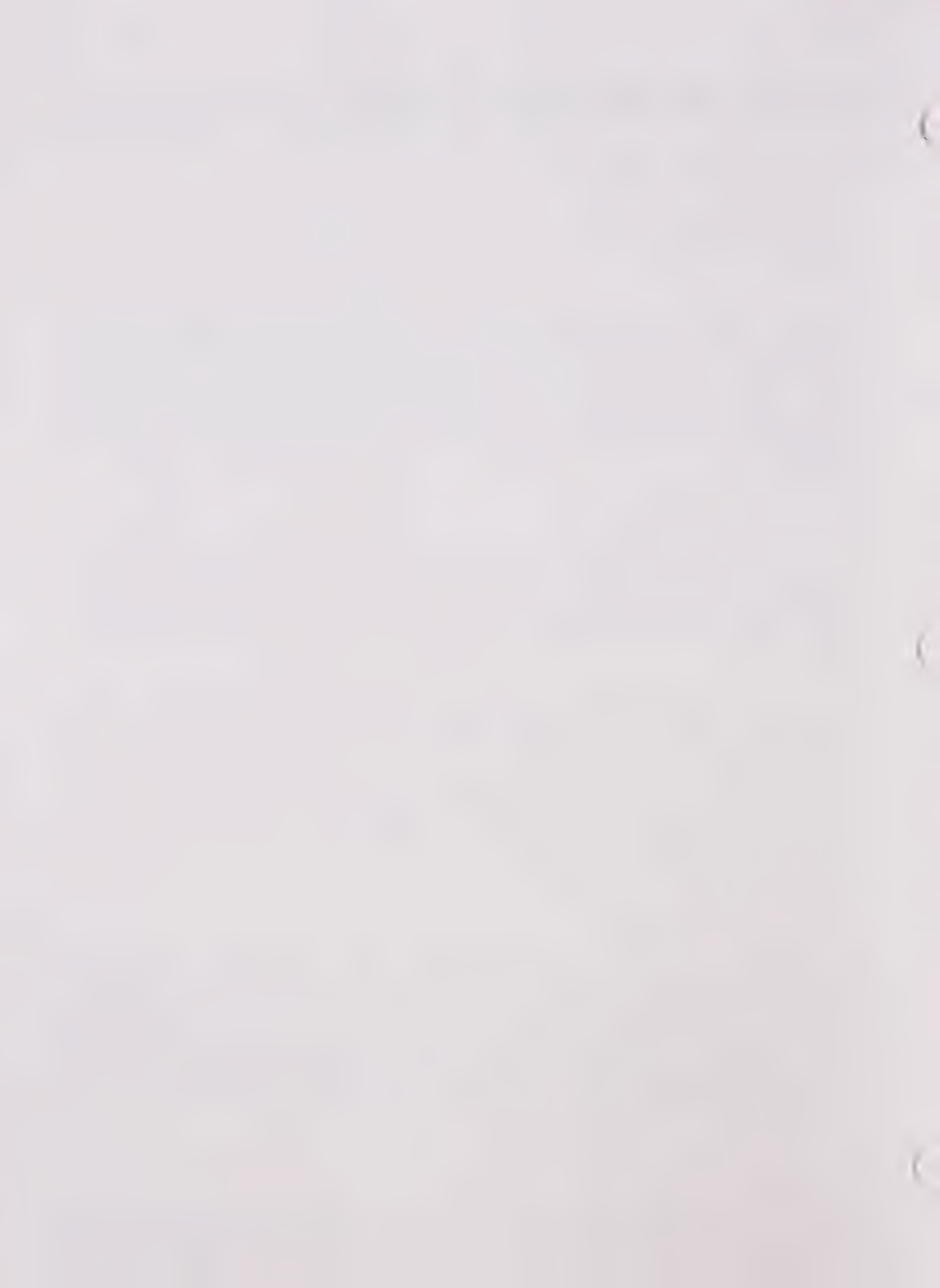
The City is located 5 miles southeast of the Whittier Narrows Dam, 7.5 miles down stream of the Santa Fe Flood Control Basin and west of the San Gabriel River flood control channel and the San Gabriel River Freeway (I-605). The Whittier Narrows Dam is earth filled and was built in 1956. It has a capacity of 66,180 acre-feet and is operated by the U.S. Army Corps of Engineers.

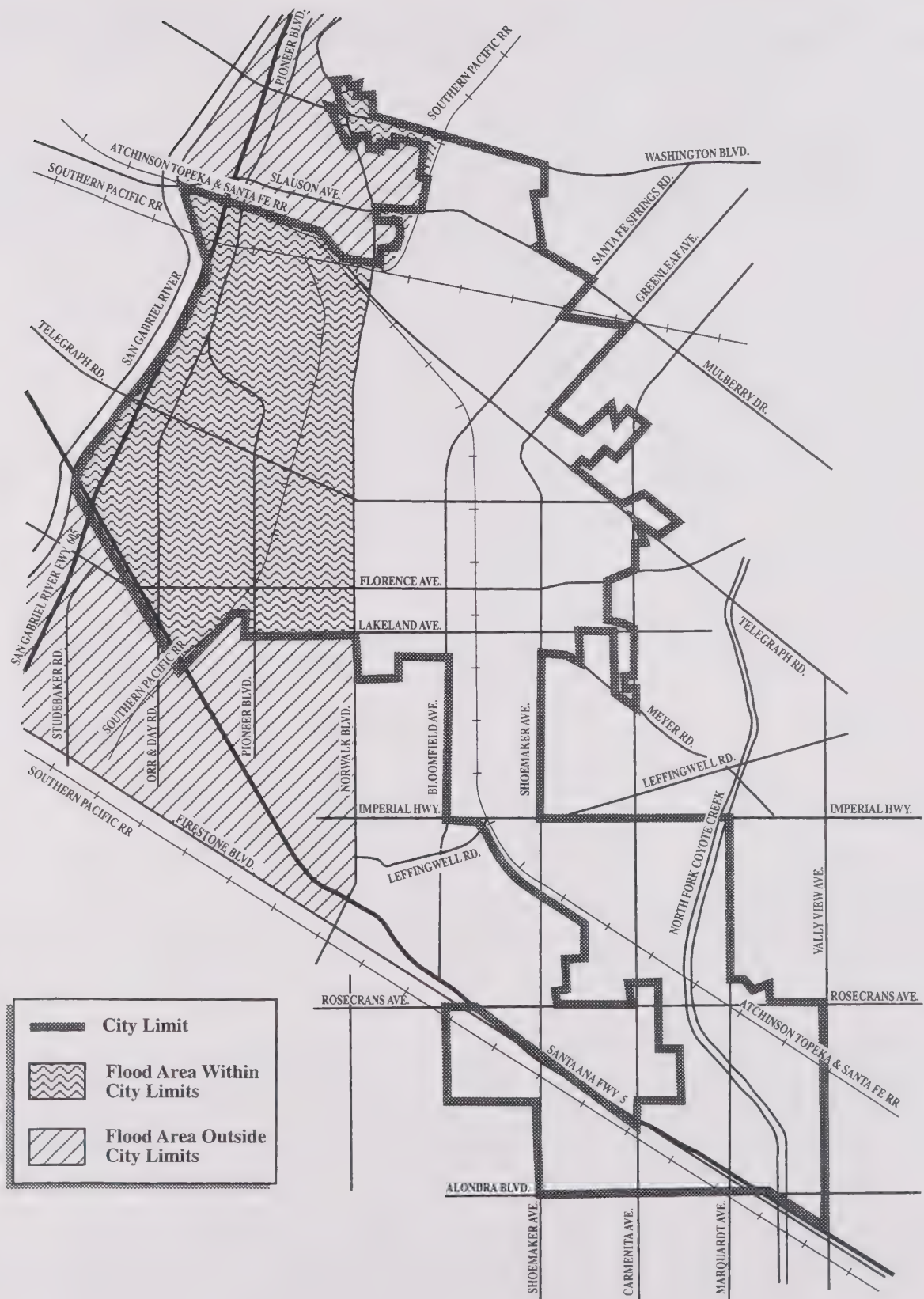
In the unlikely event of dam failure, the water flow direction would be southerly toward the cities of Pico Rivera, Whittier, Santa Fe Springs, Downey and Norwalk. The area of inundation would be bounded by Norwalk Boulevard on the east and the Los Angeles River on the west. A water depth level of approximately 5 feet is predicted for the northernmost part of Santa Fe Springs with an arrival time of one hour, gradually declining in depth to four feet at the southern end of the City's impacted area. The projected dam inundation area in Santa Fe Springs, should a failure of the Whittier Narrows Dam occur, is depicted in Figure 31. This inundation area would impact virtually the entire residential area of the City.

##### **C. Storm Flooding Hazards**

The City of Santa Fe Springs is under the jurisdiction of the Los Angeles County Department of Public Works Flood Control District for major flood control caused by storms. The District constructs and maintains regional storm drains and flood channels which are identified on the "Flood Control and Water Conservation" map. The City constructs and maintains local storm drains to minimize flooding conditions. These drains are generally designed for ten-year storms. The City's Storm Drain Master Plan for existing and proposed local and regional storm drains is incorporated into the Safety Element of the General Plan by reference.







# DAM FAILURE FLOOD INUNDATION MAP

The Planning Center

Santa Fe Springs General Plan Update Environmental Impact Report  
Figure 31





## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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The City participates in the National Flood Hazard Insurance Program. Under this program, flood hazards have been determined based on 500- and 100-year storms (Figure 32). Construction is prohibited in these areas unless the flood hazards have been mitigated. In compliance with the National Flood Hazard Insurance Program, the City has adopted a Flood Damage Prevention ordinance.

### **4.5.2 Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED STORMWATER RUNOFF DUE TO GENERAL PLAN BUILDOUT***

**Impact Analysis:** Buildout of the land uses allowed by the proposed General Plan would result in an increase in impermeable surfaces such as roadways, sidewalks and rooftops. The increase in impermeable surfaces would in turn cause increased stormwater runoff.

**Policies Included in the General Plan:** The Safety Element contains one policy related to this issue.

- 3.5.1 The City will continue its commitment to implementation of the Storm Drain Master Plan and work with the County to do the same.

**Additional Mitigation Measures Required:** None.

**Level of Significance After Mitigation:** Less than significant.

#### ***IMPACT: DEGRADATION OF SURFACE WATER QUALITY***

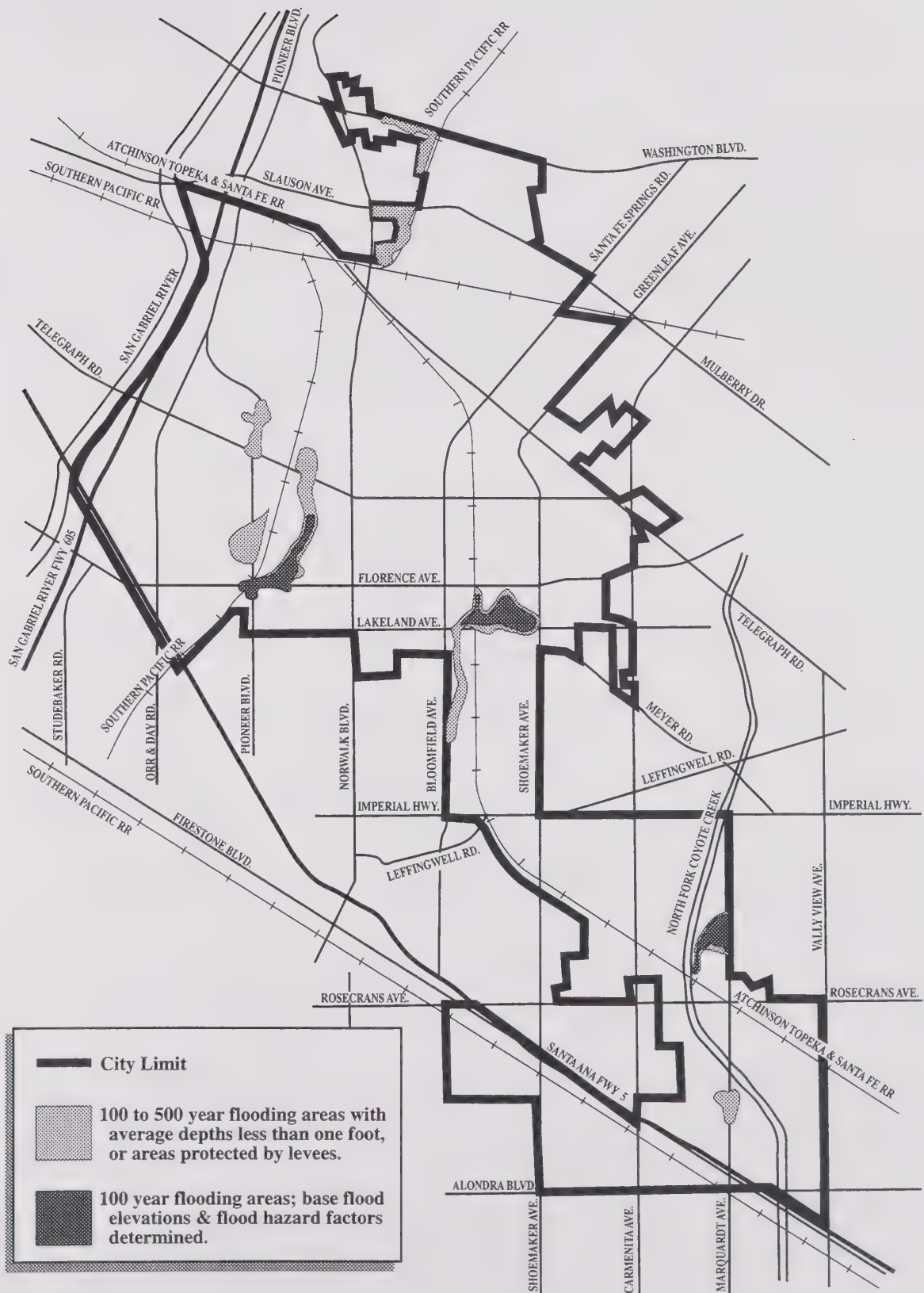
**Impact Analysis:** Development of the proposed land uses in Santa Fe Springs would have the potential to lead to degradation of water quality. Water quality impacts would have a short term component, occurring during individual site construction projects, and a long term component, occurring during the lifetime of development.

Short term grading and construction activities may cause an increase in erosion leading to sedimentation of downstream water bodies. Pollutants also may be transported from construction areas to downstream locations due to improper handling practices. Solvents, fuels, lubricants and chemical wastes may be spilled, dumped or discarded on construction sites. These contaminants may be picked up in site runoff and ultimately enter downstream waterways.

Over the long term, proposed development would introduce nonpoint sources of pollution such as parking lots, industrial chemicals and fertilizers. These pollutants may be picked up by stormwater runoff and enter surface water bodies. Runoff water quality is at its worst during the first storm following a prolonged dry period due to the "first flush" effect: the storm tends to remove pollutants that have accumulated over the preceding dry period. These pollutants include







## LOCAL FLOODING ZONES





## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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sediments, hydrocarbons, heavy metals and bacterial contaminants that originate from urban sources. Subsequent stormwater runoff generally is of better quality because exposed surfaces are typically less contaminated with pollutants.

Stormwater pollution control is the responsibility of the State Water Resources Control Board and nine Regional Water Quality Control Boards. Stormwater pollution control is implemented through the National Pollution Discharge Elimination System (NPDES) permits, which are applied to industry, municipalities and construction activities. Developments greater than five acres in size would be required to obtain construction NPDES permits. Violation of downstream receiving water quality standards or non-compliance with the NPDES program would be considered a potentially significant impact.

### ***Policies Included in the General Plan:***

- 3.1 Continue efforts with the Southeast Water Coalition to ensure that water supplies are properly planned, conserved, protected and managed.
- 3.2 Continue to coordinate water programs with other water agencies to ensure the preservation and improvement of water quality and the conservation of water.
- 3.6 Continue cooperative efforts to assure that contaminated soils are not a threat to ground water.

### ***Additional Mitigation Measures Required:***

- 4.5-1 In accordance with federal requirements, NPDES construction activity permits shall be required of all future proposed development projects of five or more acres.

***Level of Significance After Mitigation:*** Less than significant.

### ***IMPACT: DAM FAILURE INUNDATION AND STORM FLOODING***

***Impact Analysis:*** The Safety Element of the General Plan describes the flood and inundation hazards in the City as a relatively low risk, but acknowledges that an appropriate level of public safety response needs to be preplanned. The City has limited ability to directly control flooding incidents due to dam failure. The City and County have adopted Flood Control and Storm Drainage Master Plans and the City has developed a flood inundation evacuation plan. Evacuation routes are designated in an easterly direction away from the area of potential inundation, along Washington Boulevard, Slauson Avenue, Los Nietos Road, Telegraph Road, Florence Avenue and Lakeland Avenue.



## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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According to the Safety Element, failure of the Whittier Narrows Dam would require the evacuation of the entire residential population and 300 businesses from the City of Santa Fe Springs. This evacuation requires the pre-designation of high capacity evacuation routes. These routes are described in the General Plan Safety Element. In the worst case, evacuation could require the short-term sheltering of approximately 20,000 individuals and 1,500 animals. In addition, inundation would cause disruption of community life and businesses. Substantial property damage could occur as a result of water and mud damage.

According to the Safety Element of the General Plan, the risk of flooding in Santa Fe Springs is very low. However, storm floods could result in loss of life and property and the creation of public health and safety hazards. In addition, storm floods could cause disruption of commerce and governmental services and could adversely impact the tax base. Small portions of Special Study Areas 2 and 3 are located within the 100 and 500 year floodplain.

***Policies Included in the General Plan:*** The Safety Element of the General Plan contains the following policies which mitigate the potential impact of storm flooding:

- 3.5.1 The City will continue its commitment to implementation of the Storm Drain Master Plan and work with the County to do the same.
- 3.5.2 The land use planning process will include the development standards of the National Flood Hazard Program.
- 4.7.1 The City is committed to minimizing damage to life and property in the event of a major regional or local disaster.

***Additional Mitigation Measures Required:***

- 4.5-2 The City shall require that new developments provide on-site drainage detention to ensure that the capacity of downstream facilities will not be exceeded.

***Level of Significance After Mitigation:*** Less than significant.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **4.6 Aesthetics**

#### **4.6.1 Environmental Setting**

Visual and aesthetic resources are generally defined as those features of a landscape that attract viewer interest and promote a favorable impression. Visual quality may be defined differently by different individuals due to the subjective nature of aesthetic appreciation. This report addresses those visual features and impacts that might most readily be discerned by a Santa Fe Springs resident or visitor.

Visual quality consists of a number of components. Significant visual features or visual resources are those features of the natural or man-made environment which are noticeable from a variety of locations and which are aesthetically pleasing or enjoyable to look at. The significance of visual resources is also determined in part by the ease with which they can be seen; a visual resource that is in view of a public meeting place or residential homes is more significant from a community standpoint than one which is visible to a limited number of property owners or from non view-oriented land uses such as industry. A viewpoint is simply a location from which a specified visual feature can be seen. A viewshed is the entire area and all of the visual features which can be seen from a specified viewpoint.

#### **A. Visual Character of Santa Fe Springs**

Within the City, visual amenities include urban parks and landscaping. Parklands provide an important source of visual relief within the urban environment and serve to enhance the aesthetic quality of surrounding land uses. See Section 4.7.10 for a description of City parks. The City has made the protection of existing trees and the planting of new trees in new developments a priority in the planning and development approval process. The Master Street Tree Report, also known as the Tree Master Plan, was created in 1965 and amended in 1968 to establish standards for the protection, preservation, planting and removal of trees throughout the City. The plan recognizes that trees that are well selected and maintained not only add to the aesthetic beauty of the City but also provide other benefits such as helping to reduce summer temperatures and increasing property values.

#### **B. Heritage Artwork in Public Places Program**

In 1989, the City passed an ordinance creating the Heritage Artwork in Public Places Program. The intent of the program is to provide a collection of permanent outdoor sculpture throughout the City designed around themes related to the heritage of the community, and to generate funding to support a variety of children-oriented public art events. In general, the ordinance applies to new residential, commercial or industrial development with a total project cost of \$300,000 or more, excluding land, and to expansion, remodeling or improvement to existing buildings. The value of the artwork shall not be less than 1% of the total building valuation.

## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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As an alternative to purchasing art, a developer may make in-lieu payments to the Heritage Artwork in Public Places Fund. The ordinance formed the Heritage Artwork Committee which reviews proposals for public art projects and makes recommendations to the City Council.

The City has established guidelines for the approval and maintenance of artwork and has prepared a Developer's Handbook. The artwork must be installed in an exterior location on public or private property which is accessible and visible to the general public. In keeping with the City's history, the art should be centered around three historical themes: the Spanish/Indian period, the Turn-of-the-Century Ranch period, and the Industrial/Modern period. Under this program, a number of works of art have been installed which have contributed to the aesthetic quality of the community, including: the "Soaring Dreams" sculpture and fountain at Telegraph Road and Pioneer Boulevard; "The World in My Hands" bronze sculpture in front of the Santa Fe Springs Library; and "The Vaqueros" cast concrete sculpture at MC&C Commerce Center.

### **C. Visual Corridors**

The Land Use Element of the General Plan identifies nine visual corridors in the City and proposes special design treatment of these corridors to preserve and enhance their visual character. Development in these designated areas should provide for the undergrounding of all utilities in compliance with the City's Master Plan. In addition, design guidelines for these areas should be consulted prior to development. The locations of the visual corridors and their proposed treatment is described below:

#### **1. Interstate 5**

Portions of this freeway are planned for widening. The City's position is that the widening should occur within existing rights-of-way to avoid displacing or demolishing any existing buildings. High-profile development adjacent to the freeway is encouraged, which can take advantage of visibility in the Freeway Commercial areas.

#### **2. Bloomfield Avenue/Santa Fe Springs Road**

The entire length of the street is proposed for designation as a visual corridor. Development proposed for a portion of the street, from Telegraph Road to Florence Avenue, should incorporate California architecture whenever possible.

#### **3. Telegraph Road**

The portion of Telegraph Road between Norwalk Boulevard and Greenleaf Avenue, included in Special Study Area 1, is designated as a visual corridor.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **4. Imperial Highway from Bloomfield Avenue to Shoemaker Avenue**

Development in this area should provide for proper utilization of land near the regional transportation center, including the Amtrak Station.

### **5. Norwalk Boulevard between Lakeland Road and Los Nietos Road**

This portion of roadway should be reserved for aesthetically pleasing industrial development with open space and landscaping. All utilities should be located underground.

### **6. Florence Avenue**

New development along Florence Avenue should maintain compatibility with existing development between Hathaway Drive, east to Shoemaker Avenue.

### **7. Washington Boulevard between Eastern and Western City Boundaries**

This area should be redeveloped to include a smooth land use transition between industrial uses and commercial/retail and commercial/office development.

### **8. Carmenita Avenue between Alondra Boulevard and Mulberry Avenue**

Particular attention should be given to widening of the Carmenita Avenue overpass.

## **4.6.2 Environmental Impacts and Mitigation Measures**

### ***IMPACT: CHANGE IN VISUAL CHARACTER OF SANTA FE SPRINGS***

**Impact Analysis:** Under the General Plan, the three Special Study Areas comprising approximately 580 acres of land have been redesignated from heavy industrial to mixed use industrial. The General Plan recommends the creation of master plans for these areas prior to development. Conversion of these areas from their current uses as an undeveloped oil field and oil refineries to mixed use developments is likely to improve the overall visual quality of these portions of the City. In terms of Special Study Area One, the General Plan Land Use Element calls for the development of a master planned business park and 18-hole golf course. Development of the business park concept would involve adherence to increased setback restrictions and landscaping controls, resulting in a park-like atmosphere. The golf course would add to the visual amenity in the City through the designation of a large area of contiguous open space.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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***Policies Included in the General Plan:*** A number of policies in the Land Use Element of the General Plan will help to ensure that future development will reinforce and improve the visual and aesthetic character of Santa Fe Springs.

- 9.8 All areas within each Special Study Area should be Master Planned to ensure the best possible land use development.
- 12.2 Develop and encourage the use of design standards for each commercial area to improve its visual identification as a unique commercial area.
- 18.1 Appropriate ordinances, codes and other regulations should be enforced to maintain and improve the quality of land use.
- 19.1 Promote and encourage open space throughout the City by requiring increased set backs where zoning permits.
- 19.2 In the spirit of low density, managed and reasonable growth, site and develop a golf course.
- 20.1 Provide the community with the opportunities to appreciate the City's significant history through exhibits, the preservation of Heritage Park, and the Clarke Estate.
- 20.3 Operate and promote the Heritage Artwork in Public Places Program as a means of enhancing the urban environment and creating a stimulus for constructive behavior and thought.

Policies in the Open Space and Conservation Element mitigate against adverse aesthetic changes resulting from increased development in the City.

- 1.1 Whenever and wherever feasible, acquire property for the sole purpose of preserving its intrinsic value as open space.
- 1.3 Monitor the development of the Special Study Areas and other areas of potential open space to ensure that an acceptable amount of open space and recreational facilities are part of every development.
- 2.2 Continue to promote the development of open space and recreational facilities within commercial, industrial and residential developments.
- 2.4 Actively pursue available funding sources for parkland acquisition, development and maintenance.
- 1.2 Continue to enforce the guidelines as set forth in the Master Street Tree Plan Report.

***Additional Mitigation Measures Required:*** None.

***Level of Significance After Mitigation:*** Less than significant.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

### **4.7 Public Services/Utilities**

#### **4.7.1 Fire Service**

##### **A. Environmental Setting**

The City of Santa Fe Springs contracts with the Los Angeles County Fire Department for fire protection and fire suppression services. The Santa Fe Springs Fire Department provides a complete group of emergency response services, including fire suppression, paramedic and environmental response. Fire suppression is composed of four engine pumps and one ladder truck. Emergency medical services (EMS) are supplied by each fire company, which is staffed by personnel that hold a mandatory Emergency Medical Technician (EMT) Certificate and are experienced in the use of Automatic Defibrillators. A paramedic squad responds to all emergency response calls.

The Insurance Services Office (ISO) rating system is a measure of the City's overall fire protection preparedness. The rating system assigns designations of Class 1, which represents the highest level of preparedness, to a Class 10, the lowest level. The rating is based on four primary areas of fire defense: 1) city water supply (fire flow, distribution, hydrants and reliability); 2) communications (dispatching, radio frequencies and phone lines); 3) fire department (facilities, equipment, personnel and training); and 4) city measures (codes, controls, enforcement and mutual aid agreements). Of these four criteria, the water system is given the greatest weight. The City of Santa Fe Springs became an ISO Class 2 rated city in 1984.

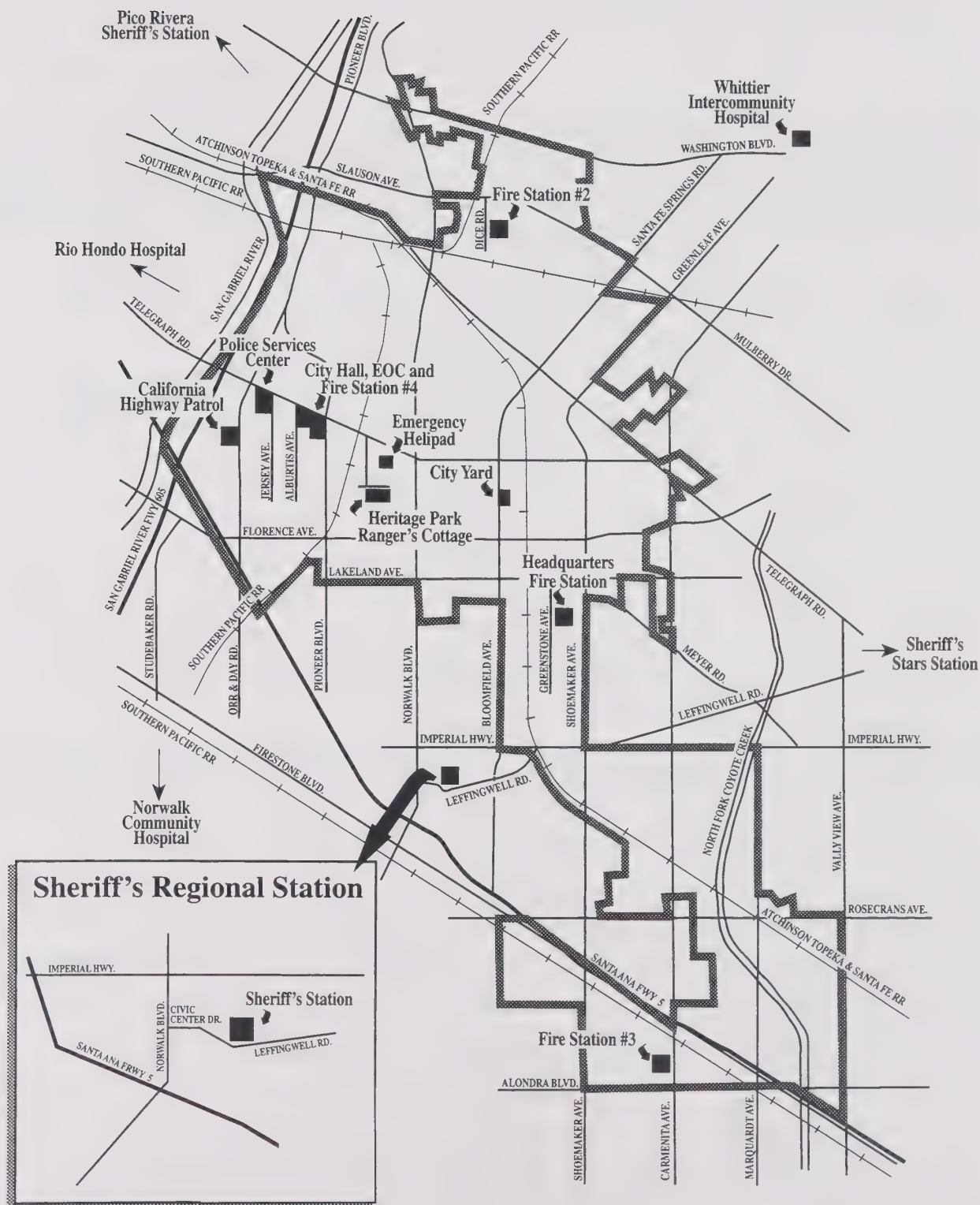
Currently, four fire stations serve four sections of the City of Santa Fe Springs. Each is equipped with emergency power and is networked by communications equipment including radio, intercom and computer systems. Their locations and response times are identified in Table 23. Existing fire station locations are depicted in Figure 33.

**TABLE 23  
LOCATIONS AND RESPONSE TIME OF FIRE FACILITIES**

<b>Station Number</b>	<b>Location</b>	<b>Response Time <sup>1</sup></b>
Station 1	11300 Greenstone Avenue	4:17 minutes
Station 2	8634 Dice Road	4:53 minutes
Station 3	15517 Carmenita Road	2:47 minutes
Station 4	11736 Telegraph Road	4:01 minutes
Paramedic Van		4:40 minutes

<sup>1</sup> Response time of all shifts serving all four regions based on December 1992 data.





## PUBLIC SAFETY FACILITIES







## **4 ENVIRONMENTAL IMPACT ANALYSIS**

### **1. Equipment and Personnel**

The available fire service equipment and personnel for the City of Santa Fe Springs is indicated in Table 24. As indicated in the table, major fire suppression response equipment includes four 1,500 gpm pumpers and one 95-foot aerial platform ladder truck with 1,500 gpm pump. Specialized response equipment includes an Environment Response Unit for hazardous materials releases, a Light and Air Unit, and Urban Search and Rescue Unit and a Foam Unit for chemical fires.

<b>TABLE 24 FIRE STAFF AND EQUIPMENT RESOURCES</b>		
<b>Staff Resources</b>	<b>Personnel</b>	<b>Equipment</b>
Suppression	61 persons	4 Engines/1 Ladder Truck 1 Van Manual Defibrulators Drug Boxes Telemetry
Auxiliaries	35 person	N/A
Prevention	6 persons	N/A
Office Staff	12 persons	N/A

The size of the fire company responding to a call depends upon the nature of the incident. The four categories of incidents and the minimum apparatus and personnel required for each is indicated in Table 25.

<b>TABLE 25 FIRE INCIDENT CATEGORIES</b>		
<b>Incident Category</b>	<b>Minimum Apparatus</b>	<b>Personnel</b>
Commercial/Industrial	3 Engines 1 Truck 1 Paramedic 1 Battalion Chief	9 persons 3 persons 2 persons 1 person
Residential	2 Engines 1 Truck 1 Paramedic 1 Battalion Chief	6 persons 3 persons 2 persons 1 person
EMS (First Aid - Traffic Collisions)	1 Engine 1 Paramedic	3 persons 2 persons
Trash/Car Fires	1 Engine	3 persons

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **2. Level of Service**

The level of fire services and the increase in fire services required by the City is based upon "fire flow" requirements. The fire flow requirements for an occupancy are based on possible needs for fire suppression control. The maximum fire flow for the City of Santa Fe Springs has been set at 4,000 gpm. Each city engine and truck company is capable of pumping in excess of 1,000 gpm during fire suppression operations. The level of service also is determined by the nature of the hazard presented and evaluated for each individual business or residence. Land uses with the potential to impact the existing fireflow requirements include those land uses that involve the storage and production of hazardous materials.

To ensure adequate emergency water supplies throughout the City, new construction may be required to meet specific fire flow requirements. The general standard has been to keep the fire flow requirements on new occupancies below 4,000 gpm. This can be accomplished through the use of fire sprinkler systems, additional open space areas around the facility (fire breaks), better construction materials, area separation walls, limitations on flammable/hazardous materials in inventory, on-site fire brigades, creating better fire apparatus access and various other protection techniques.

The City owns and operates its municipal water system. This system as a whole provides sufficient capacity to meet the peak water supply requirements of the established fire flow standard. The City's Water System Master Plan designates improvements to meet specific fire flow needs. Major water flow needs can be satisfied through the City's storage capacity, emergency connections with other systems and through its two connections with the Metropolitan Water District.

The fire department currently has no plans to expand its facilities.

### **3. Disaster Planning and Emergency Operations**

The Fire Department is responsible for storing and maintaining disaster-related Urban Search and Rescue (USAR) equipment and for implementing disaster plans that have been created primarily by the Emergency Response Coordinator within the Police Department. The Multi-Hazard Functional Plan for Emergency Operations (May 1990) identifies the functional responsibilities of local agencies in the event of an emergency situation ranging from a major earthquake to a hazardous materials incident. In terms of fire suppression/rescue, the Fire Department has primary responsibility for access control, medical, rescue operations and radiological protection, and is a supporting agency for movement operations. In terms of prevention/hazardous materials, the department has shared responsibility for situation analysis and recovery planning. Further discussion of the City's Emergency Preparedness Delivery System is included in Section 4.11.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **4. Hazardous Materials Incidents**

Responsibility for the City's Hazardous Material Management System rests with the Santa Fe Springs Fire Department, Environmental Protection Bureau. The City's Hazardous Material Area Plan (Revised June 1991) establishes the City's response organization, command authority, responsibilities, functions and interactions required to mitigate a hazardous material emergency affecting the City of Santa Fe Springs. This document outlines the responsibilities of federal, state and local authorities, including the Fire Department, in minimizing damage to human health, natural systems and property.

In addition to the hazardous materials program, the Fire Marshall administers the following programs: Underground Storage Tanks; Disclosure/Business Plans; Pipelines; Abandoned Oil Wells/Methane; and Risk Management and Prevention Program (RMPP). Site contamination is handled by the Los Angeles County Department of Public Works. National Pollutant Discharge Elimination System (NPDES) permits are State enforced and regulated. Further discussion of the City's Hazardous Materials Protection System is included in Section 4.11.

### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED DEMAND FOR FIRE PROTECTION SERVICES***

**Impact Analysis:** Under buildout of the General Plan, there would be 16,936 residents in Santa Fe Springs needing fire protection. In addition, approximately 580 acres of new, mixed use industrial development in the three Special Study Areas will require fire protection services. The City has established standards for maintaining adequate fire flow to occupancies and has established minimum fire flow and access standards for new development. The City's mutual aid agreement with surrounding cities and the County of Los Angeles will help to ensure that sufficient personnel are available to provide the needed fire protection services.

**Policies Included in the General Plan:** The Safety Element of the General Plan includes policies related to the provision of adequate fire suppression and prevention services which mitigate the impact of increased demand for fire protection services.

- 5.5.1 The City will continue to work with relevant regulatory agencies to seek compliance by urban fire sources with current development and operations standards.
- 5.5.2 Continue to use redevelopment as a tool to reduce the number of urban fire hazard structures and systems.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- 5.5.3 The City will seek to review all new development as to the urban fire risks involved and how such developments can remain within established fire flow requirements.
- 5.5.4 The land use planning processes will continue to review the density of structures and population as potential fire risks and consider such in development plan approval.
- 6.7.1 Table 6C (of the Safety Element) sets forth the City's standards by occupancies for fire flows and emergency response vehicle access as to road widths, turning radius and paved access.
- 6.7.2 The City will continue to provide the finest fire protection and paramedic services at the lowest possible cost commensurate with adequate community protection.

*Additional Mitigation Measures Required:* None required.

*Level of Significance After Mitigation:* Less than significant.

### **4.7.2 Police Service**

#### **A. Environmental Setting**

Crime protection services for the City of Santa Fe Springs community are managed and provided primarily by the City's Department of Police/Community Relations and its contract with the Los Angeles County Sheriff's Department. The Department is located in the City's Police Services Center at Telegraph Road and Jersey Avenue. The locations of the Police Services Center and the Sheriff's Regional Station are indicated on Figure 34.

The Police Services Center includes offices for all of the Department's City staff and contract Sheriff's personnel; networked computer and radio communications systems; alternate City Emergency Operations Center equipment; and a community meeting and training room. The contract with the Los Angeles County Sheriff's Department provides for sworn deputy patrol, tactical, investigative and supervisory law enforcement services. The types and levels of service are established through an annual contract and through the discretionary deployment of specialized tactical and patrol officers. Contract resources are generally deployed from the Sheriff's region station located in the adjacent city of Norwalk, but with local assignment to the Police Services Center. In addition, "general county" Sheriff's personnel serve the City on an as needed basis. The measures used by the Department to evaluate the effectiveness of resource utilization include: crime rates, numbers of calls for service, response times for those calls and the clearance rates resulting from crime investigation. As indicated in Table 26, the number of calls for service increased between 1988 and 1992 and declined between 1992 and 1993.



## LOCATION OF CRITICAL FACILITIES



## 4 ENVIRONMENTAL IMPACT ANALYSIS

**TABLE 26**  
**LAW ENFORCEMENT REQUESTS FOR SERVICE**

Agency	1988	1989	1990	1991	1992	1993
Regional Sheriff's Station	12,101	12,390	14,030	14,933	15,206	N/A
City Police Services Center	N/A	N/A	N/A	N/A	10,100	14,200

Table 27, Average Sworn Deputy Response Times, indicates that immediate response times generally decreased between 1988 and 1992. Emergency response times increased during the same period.

**TABLE 27**  
**AVERAGE SWORN DEPUTY RESPONSE TIMES**

	1988	1989	1990	1991	1992
Immediate Response Time	9.8	9.2	10	9.1	7
Emergency Response Time	5.3	5.4	5.6	5.6	5.8

The case clearance rate is identified in Table 28. Between 1988 and 1992 the percentage of cases cleared fluctuated from a low of 7.1% in 1989 to a high of 23.3% in 1991.

**TABLE 28**  
**CASE CLEARANCE RATE FOR MAJOR CRIMES**

Year	% Clearance
1988	18.2
1989	7.1
1990	9.5
1991	23.3
1992	21.4

In addition to the crime protection system, the City operates a crime prevention system, a significant component of which is the public safety education delivery system.



## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED DEMAND FOR POLICE PROTECTION SERVICES***

***Impact Analysis:*** Under buildout of the General Plan, there would be 16,936 residents in Santa Fe Springs that would require police protection.

***Policies Included in the General Plan:*** The Safety Element of the General Plan includes policies regarding police protection services.

- 9.5.1 City land use planning policies and decisions will take into consideration the crime and traffic safety impacts of the uses.
- 10.6.1 The City will continue to provide the finest law enforcement protection services at the lowest cost commensurate with adequate community protection.
- 10.6.2 Focus community and City organizational attention on the "broken window" theory of crime prevention, i.e., prevention of community physical deterioration correlates to prevention of crime.
- 12.5.1 The City will continue to be proactive in the development, administration and enforcement of standards which will protect the community from serious public safety hazards.
- 12.5.2 The highest of priorities for code development and enforcement will be in the areas of structural, hazardous material, seismic, fire safety, crime, traffic, property maintenance, waste stream, and environmental hazards.
- 12.5.3 Particular attention in fire, seismic and structural code enforcement needs to be given to critical facilities as identified in Section XI of the Safety Element.
- 12.5.4 Standards will be reviewed and enforced as to the sufficiency of signage and location numbering systems in support of emergency response vehicles and personnel.

***Additional Mitigation Measures Required:*** No additional mitigation measures required.

***Level of Significance After Mitigation:*** Not significant.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

### **4.7.3 Education**

#### **A. Environmental Setting**

There are several school districts providing educational services to the City of Santa Fe Springs: Little Lake School District, Los Nietos School District and South Whittier School District. District schools and their current enrollment and capacity are identified in Table 29.

<b>TABLE 29 PUBLIC SCHOOL CAPACITY AND CURRENT ENROLLMENT</b>		
<b>School</b>	<b>Capacity</b>	<b>Enrollment</b>
<u>Elementary</u>		
Jersey Elementary 9400 Jersey Avenue	600	558
Lakeview Elementary 11500 E. Joslin Street	504	493
Rancho Santa Gertrudes 11233 E. Charlesworth Road	600	356
<u>Middle</u>		
Lake Center Middle School 10503 S. Pioneer Boulevard	800	516
<u>Senior High</u>		
Santa Fe Springs High School	1825	1786

The Los Nietos School District has one elementary school in the City, Rancho Santa Gertrude, which has a current enrollment of 356 students and a capacity of 600 students. The Little Lake School District has three schools in Santa Fe Springs. The Jersey Avenue Elementary School has an enrollment of 558 students, compared with capacity of 600 students. Lake Center Middle School has 516 students attending and a capacity of 800 students. Lake View Elementary has

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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an enrollment of 493 students, with a capacity of 504 students. The South Whittier School District operates one school in the City, Santa Fe Springs High School. The high school has a current enrollment of 1786 students and a capacity of 1825 students.

### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED DEMAND ON SCHOOL FACILITIES***

**Impact Analysis:** Build out under the General Plan would result in the addition of 269 dwelling units in Santa Fe Springs over the 1990 level of 4,817 by the year 2010. Student generations rates per dwelling unit provided by the Los Nietos School District and the Little Lake School District are 0.38 students/du and 0.48 students/du, respectively. Applying these rates would result in the addition of between 83 and 105 students in the city by the year 2010.

**Policies Included in General Plan:** None

**Additional Mitigation Measures Required:** The City shall work with the School Districts to ensure that school facility impact fees are collected and shall work with developers and School Districts to establish programs that ensure future school facilities will be available.

**Level of Significance After Mitigation:** Less than significant.

### **4.7.4 Electricity**

#### **A. Environmental Setting**

Southern California Edison (SCE) supplies electricity to the City of Santa Fe Springs via underground and overhead lines. SCE is a public utility and therefore provides service to meet consumer needs. Extensions for electrical service to new developments are governed by rules established by the California Public Utilities Commission. The hierarchy of establishing electrical power lines from generation stations to customers is as follows: transmission line; sub-transmission line, and service line.

According to SCE, consumption rates for residential usage are 580 kilowatts per hour (kWh), while commercial/industrial use varies and is dependent upon the product manufactured.

#### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED DEMAND FOR ELECTRICITY***

**Impact Analysis:** Implementation of the proposed General Plan would result in increased demand for electricity. As a public utility, SCE is required to provide electrical service to



## ***4 ENVIRONMENTAL IMPACT ANALYSIS***

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accommodate demand resulting from new development. SCE would construct additional facilities in the City of Santa Fe Springs to provide this service. SCE does not anticipate difficulties in providing service to the City. Therefore, the impact of the proposed General Plan is not significant.

*Policies Included in General Plan:* None.

*Additional Mitigation Measures Required:* No mitigation measures are required.

*Level of Significance After Mitigation:* No significant impacts.

### **4.7.5 Natural Gas**

#### **A. Environmental Setting**

The Southern California Gas Company (SCGC) services the City of Santa Fe Springs. SCGC estimates average consumption at 1,095 therms per year per single family dwelling unit.

#### **B. Environmental Impacts and Mitigation Measures**

##### ***IMPACT ANALYSIS: INCREASED DEMAND FOR NATURAL GAS***

*Impact Analysis:* Development of vacant land in the City under the proposed General Plan would result in additional demand for gas services. The Southern California Gas Company indicates that future planned development can be adequately served. Therefore, implementation of the General Plan would not significantly impact this utility service.

The SCGC has indicated that the proposed project can be served from existing mains in the area. This can be done without any major impact on the overall capacity of the system, service to existing customers or the environment.

*Policies Included in General Plan:* None.

*Additional Mitigation Measures Required:* No mitigation measures are proposed.

*Level of Significance After Mitigation:* No significant impacts.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **4.7.6 Telephone**

#### **A. Environmental Setting**

GTE California provides telephone service to residents and businesses in the City of Santa Fe Springs. At this time, GTE has no plans to expand existing facilities. An issue of concern identified by GTE is the future ability to provide needed infrastructure to the expanding business community on a timely basis in light of the nationwide telecommunications superhighway that will be built in the next five to ten years. This will involve the installation of fiber optic cable all the way into the consumer's premises (both business and residential). A high level of telecommunications capacity will be a must for all facilities approved for construction in the City.

#### **B. Environmental Impacts and Mitigation Measures**

##### ***IMPACT: INCREASED DEMAND FOR TELEPHONE SERVICE***

**Impact Analysis:** General Telephone Company would be prepared to provide telephone services to the project site in accordance with current tariffs filed with the California Public Utilities Commission. General Telephone Company has indicated that it would be necessary to extend its facilities to service the City of Santa Fe Springs.

**Policies Included in General Plan:** None.

**Additional Mitigation Measures Required:** No mitigation measures are required.

**Level of Significance After Mitigation:** No significant impacts.

### **4.7.7 Water**

#### **A. Environmental Setting**

##### **1. Water Supplies**

The Santa Fe Springs Municipal Water District (MWD) is the retail supplier of potable water in the City. The size of the water mains range from 4 to 20 inches, depending upon the use and location. All water mains are located within City streets, easements or public right-of-ways. The City maintains a water atlas.

There are no deficiencies in the water system. Fifty percent of the water distributed is from well water (see Figure 35); the remaining 50 percent is supplied by the MWD. The City of Santa Fe Springs maintains two four million gallon reservoirs. The total water usage in 1991/92 was 8,250 acre-feet.



# WATER WELLS

The Planning Center





## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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Revenue is generated by the sale of water. The City collects a trunkline connection fee (\$2,500/acre) for new installations. The monies are used towards transmission facilities and improvements.

The following issues are important to the City: 1) maintaining a reliable source of imported water and 2) EPA needs to be responsible and reasonable when establishing new standards for water quality. A cost/benefit analysis needs to be considered when setting these new regulations.

The goal is to provide a safe potable water supply to the customers, at a reasonable pressure, in quantities sufficient to meet the customers' needs. The City has achieved this goal in the past and will continue to do so in the future.

The City's Urban Water Management Plan addresses how water is used in the City, while the Water System Master Plan addresses how to get the water to an end user.

Resolution No. 5673 sets forth the rates and charges for water services in the City of Santa Fe Springs. The resolution specifies quantity rates, service charges, and fire meter charges.

### **2. Water Quality**

The City of Santa Fe Springs continuously monitors its water supply to ensure safety. Over 300 bacteriological samples are taken annually. The 1992 samples showed no coliform bacteria present in the water system. The water system was also tested for regulated trihalomethanes, chemicals, organic chemicals, physical agents, radon, radioactivity, and an additional 53 organic chemicals for which the California Department of Health Services and the United States Environmental Protection Agency have not yet set standards. All of the test results indicate that the Santa Fe Springs water is at a safe level below the Maximum Contaminate Level (MCL) of all State and Federal drinking water standards.

The City receives 45 percent of its water from deep water wells (see Figure 36) and 55 percent from the Metropolitan Water District. The well water comes from aquifers located several hundred feet below the ground, and is pumped directly into the City's water system, using chlorine for disinfection. The MWD receives its water from the Colorado River and the Sacramento Delta River. This water travels through aqueducts to Southern California where it is filtered, treated and disinfected with chloramine prior to reaching the City's water system.



## 4 ENVIRONMENTAL IMPACT ANALYSIS

TABLE 30 WATER WELLS				
Well Number	State Well Number	Location	State Status	Aquifer
Well #1	2S/11W-30R3S	Dice Rd/Burke St	Active	Silverado Sunnyside
Well #2	3S/11W-20R9S	Carmenita Rd/Alondra	Active	Hollydale Jefferson Lynwood Silverado Sunnyside
Well #4	3S/11W-06D3S	Telegraph Rd/SPRR	Active	Lynwood Silverado Sunnyside
Well #304	2S/12W-25Q5S	Los Nietos Rd/San Gabriel River	Active	Silverad
Well #309	3S/12W-01F8S	11124 Idalene	Inactive	Sunnyside
Abandoned Wells				
Well #305	2S/12W-36Q5S	Houghton/Telegraph		
Well #1	3S/12W-01A7S	Clarke Estate (Siemon)		
Well #307	3S/12W-01N5S	Benfield/Studebaker (City of Downey)		
Well #308	3S/12W-01K8S	11448 Clarkman		

### B. Environmental Impacts and Mitigation Measures

#### IMPACT: POTENTIAL INCREASE IN WATER CONSUMPTION

**Impact Analysis:** Santa Fe Springs contains stable residential areas and significant population growth is not anticipated under the proposed General Plan. The greatest change in land use is expected as former oil protection sites are converted to Mixed Use Industrial. This conversion is not expected to generate a significant increase in the demand for water and significant impacts are not anticipated.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

***Policies Included in General Plan:*** The Circulation Element contains a number of policies related to this issue.

- 10.1 Obtain pumping rights to utilize the low cost, high quality groundwater supply to the maximum extent.
- 10.2 Develop the reclaimed water system to serve landscaped areas and industrial uses. Require the use of reclaimed water whenever economically feasible. Establish reclaimed water rates to encourage greater use of this resource.
- 10.3 Maintain a water quality monitoring program to ensure a safe, potable supply to the system.
- 10.4 Maintain a program to replace old leaking water mains and test and replace old water meters as needed.
- 10.5 Update the Water System Master Plan at least every ten years and include the reclaimed water system in the Master Plan.
- 10.6 Implement recommendations contained in the Water System Master Plan when feasible.
- 10.7 Program capital improvements to construct new and replace old wells, pumping plants, reservoirs, etc., to maintain a "Class I" rating.

***Additional Mitigation Measures Required:*** None.

***Level of Significance After Mitigation:*** Less than significant.

### **4.7.8 Sewer**

#### **A. Environmental Setting**

The Weymouth and Diemer Treatment Plants serve the City of Santa Fe Springs. The City of Santa Fe Springs is located within the jurisdictional boundaries of District No. 18 of the Los Angeles County Sanitation Districts.

##### **1. Treatment Facilities**

Wastewater generated within the City of Santa Fe Springs is treated at either the Joint Water Pollution Control Plant (JWPCP) located in the City of Carson or the Los Coyotes Water Reclamation Plant (LCWRP) located in the City of Cerritos. These facilities have been interconnected as part of a regional wastewater treatment system. The JWPCP provides partial

## 4 ENVIRONMENTAL IMPACT ANALYSIS

secondary treatment to all influent wastewater. The capacity of the JWPCP is 385 million gallons per day (mgd) and the JWPCP presently treats 332 mgd. The JWPCP maintains NPDES permit no. CA0053813, 77-99 and 91-112. The LCWRP provides tertiary treatment to all influent wastewater and LCWRP effluent is available for reuse in the surrounding region. The LCWRP presently treats 28.7 mgd and the capacity of the LCWRP is 37.5 mgd. The LCWRP maintains NPDES permit no. CA0054011 (89-095).

### 2. Wastewater Flows

Table 31 lists the Los Angeles County Sanitation Districts' trunk sewers that service the City of Santa Fe Springs.

TABLE 31 TRUNK SEWER LINE LOCATIONS					
Name	Location	Size	Design Capacity	Peak Flow	Last Measured
Orr & Day Road Trunk Sewer, Sec. 1	In Orr & Day Rd. between Florence Ave. & Telegraph Rd	27"	11	9.5	1991
Orr & Day Road, Trunk Sewer, Sec. 2	In Millgrove Ave. between Charlesworth Rd. and Los Nietos Rd.	27"	8	5	1991
Florence Ave. Trunk Sewer	In Florence Ave. between Orr & Day Rd. and Santa Fe Ave.	18"	8	3	1991
South Whittier Outfall Trunk Sewer	In Carmenita Rd. between Rosecrans Ave. and Imperial Hwy.	36"	18	8	1991
South Whittier Outfall Relief Trunk Sewer	In Carmenita Rd. between Placid Dr. and Rosecrans Ave.	24"	8.5	4	1991
Marquadt Avenue Trunk Sewer	In Marquadt Ave. between Alondra Blvd. and Artesia Blvd.	21"	2.8	.8	1991
La Mirada Trunk Sewer	In Stage Rd. between Rosecrans Ave. and Biola Ave.	24"	4	2	1991
La Mirada Relief Trunk Sewer, Sec. 1	In Rosecrans Ave. between Carmenita Rd. and Coyote Creek	33"	6	5	1991
La Mirada Relief Trunk Sewer, Sec. 2	In right-of-way south of Stage Rd. between Rosecrans Ave. and Biola Ave.	24"	7	3	1991



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

Wastewater generated within the City of Santa Fe Springs generally flows to the west and south to the LCWRP and/or the JWPCP. The Los Angeles County Sanitation Districts do not own, operate or maintain any pumping plants within the City of Santa Fe Springs.

The Los Angeles County Sanitation Districts own, operate and maintain only the large trunk sewers, which conceptually forms the spine of the wastewater conveyance system. Local collector and/or lateral sewer lines are the responsibility of the jurisdiction in which they are located. Presently, there are no capacity deficiencies the Sanitation Districts' facilities that serve the City of Santa Fe Springs.

According to a 1991 Districts study, during 1990 municipal and industrial wastewater flows generated within the City of Santa Fe Springs totaled 605.5 and 1,060.2 million gallons per year, respectively.

The Sanitation Districts require all industrial dischargers to pretreat their wastewater before discharging into the District's sewerage system. Pretreated industrial wastewaters are then commingled with municipal wastewaters and transported to a District treatment facility. In order to facilitate wastewater reclamation and reuse, trunk sewers that serve predominantly industrial regions are routed to the JWPCP, while trunk sewers that serve predominantly residential regions are routed to water reclamation plants.

As a rule, sewerage and stormdrain systems are not interconnected within the District's jurisdiction.

The Districts are not presently planning to expand existing facilities or construct new facilities within the City of Santa Fe Springs. There are, furthermore, no plans to expand either the JWPCP or the LCWRP in the near future.

### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASE IN WASTEWATER GENERATION***

***Impact Analysis:*** The Sanitation Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting to the Sanitation Districts' Sewerage System or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. A connection fee is required so that necessary expansions to the Sewerage System can be constructed to accommodate new development. Payment of a connection fee will be required before a permit to connect to the sewer is issued.

Individual projects that may be associated with the proposed project (General Plan) may require a Districts permit for Industrial Wastewater Discharge. Project developers should contact the Districts' Industrial Waste Section in order to make a determination on this matter. If this permit



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is required, project developers are required to forward a set of final plans to the Districts for review and approval before beginning project construction.

A direct connection to the Districts' trunk sewer requires a Trunk Sewer Connection Permit, which is issued by the Districts.

The design capacity of the Districts' wastewater conveyance and treatment facilities are based on population forecasts adopted in the 1991 South Coast Air Quality Management Plan (AQMP). In order to conform with the AQMP, all expansions of Districts' facilities must be sized and service phased in a manner that is consistent with the Growth Management Plan (GMP). The available capacity of Districts' conveyance and treatment facilities will, therefore, be limited to levels associated with growth identified in the adopted GMP/AQMP.

***Policies Included in General Plan:*** The Circulation Element contains a number of policies related to this issue.

- 9.1           The cost of installation and maintenance should be borne by the properties benefitted.
- 9.2           A program to analyze and identify sewers needing increased capacity should be implemented. This program should determine costs to construct relief sewers and develop financing plans.
- 9.3           Encourage off-peak discharges to the sewer system where economically feasible.
- 9.4           Utilize pipe "lining" material to reduce frictional losses and increase capacity in overloaded sewers when economically feasible.
- 9.5           Trunk sewers should be constructed and maintained by the County Sanitation District.
- 9.6           Maintain an Industrial Waste Inspection and Regulation Program with all costs being paid by industrial waste dischargers.

***Additional Mitigation Measures Required:*** None.

***Level of Significance After Mitigation:*** Less than significant.

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### **4.7.9 Solid Waste**

#### **A. Environmental Setting**

##### **1. Solid Waste Generation**

The City of Santa Fe Springs' Source Reduction and Recycling (SRR) and Household Hazardous Waste (HHW) elements were developed in response to Assembly Bill 939 (AB 939), the California Integrated Waste Management Act of 1989. AB 939 requires every city and county in the State of California to prepare an SRR element that identifies how each jurisdiction will meet the mandatory waste diversion goals set by the State of 25% by 1995 and 50% by 2000. The law also requires every jurisdiction to develop a HHW element to plan for the proper management of hazardous wastes that are generated by households.

A solid waste generation study was conducted by SCS Engineers (November 1990, revised April 1992) to quantify and characterize the solid waste generated, diverted and disposed by the City of Santa Fe Springs. Currently, 144,676 tons of solid waste are generated by the City annually. Of this total, approximately 101,340 tons of solid waste are disposed of annually. Through a number of existing diversion programs operated by the City and the private sector, 43,336 tons annually are diverted from disposal at nearby landfills. Using a conversion factor of 1,264 pounds per cubic yard for the composite density of diverted materials, SCS estimated that the in-place annual volume of materials diverted from landfills is 68,570 cubic yards.

The existing rate of solid waste diversion is approximately 30% of the current solid waste generated. This estimate is above the 25% diversion rate required for 1995 by AB 939. This high diversion rate can be attributed primarily to strong recycling efforts by the City's commercial and industrial sectors. Despite these recycling efforts, the following materials comprise a significant portion of their respective waste streams:

- Residential - mixed paper and yard waste.
- Commercial - corrugated containers, mixed paper and wood waste.
- Industrial - corrugated containers, mixed paper, film and other plastics, tires and rubber products and inert solids.

#### ***Private Refuse Haulers***

The majority of solid wastes generated in the City of Santa Fe Springs are collected and disposed of by five franchised haulers:

- Western Waste Industries;
- Consolidated Disposal Service;
- People's D.O.B. Service;

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- Serv-Well Disposal Service; and
- Disposal Service.

These five haulers provide collection service to 3,100 businesses and over 15,000 residents within the City.

### ***Self-Haul Disposal***

Some wastes generated in the City are hauled directly to landfills by the general public (i.e., home owners, small businesses, contractors, landscapers, etc.). There are no records regarding the precise quantities or types of self-haul wastes disposed by the general public in the City of Santa Fe Springs.

According to information provided by the Sanitation Districts of Los Angeles County, self-haul loads account for approximately 6% by weight of all wastes received at area landfills. Since a significant number of self-haul loads typically originate from residences and since the City's residential sector is relatively small, it is assumed that 2 to 3 %<sup>7</sup> of the wastes from the City of Santa Fe Springs are delivered to landfills in self-haul vehicles.

### ***Other Collection/Disposal Sources***

Other waste generation sources in the City include park and street maintenance, as well as waste collection from public facilities such as parking areas and civic buildings. Collection and hauling of these wastes is provided by the City and by private businesses under contract to the City. Approximately 35 tons per month (420 tons per year) of street sweepings and other debris from litter receptacles are hauled separately for disposal from these sources.

### ***Disposal Destinations***

Refuse collected by haulers is disposed at the Puente Hills, BKK or Spadra Landfills, all of which are located in Los Angeles County. From information provided by haulers serving the City of Santa Fe Springs, it is estimated that approximately 80 % of all wastes collected in the City is hauled to the Puente Hills Landfill. (see Table 32).

### ***Estimated Waste Disposal Rate***

It is estimated that approximately 8,445 tons of the City's solid wastes are disposed of at area landfills each month (see Table 33). This totals approximately 101,340 tons per year. The waste

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<sup>7</sup> Source: AB 939 Solid Waste Generation Studies, City of Santa Fe Springs, prepared by SCS Engineers, April 1992.



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disposal estimates generally correlate with the City's demographic data. Commercial and industrial wastes constitute approximately 80% of the overall waste stream, which is to be expected, given the business-oriented nature and land use patterns of the City.

**TABLE 32  
LANDFILLS**

Landfill	Location	Year Permit Expires	% of Santa Fe Springs Solid Waste
Puente Hills	2800 Workman Mill Road Whittier, CA 90601	2003	80%
Spadra	4125 W. Valley Blvd. Pomona, CA 91789	1999	10%
BKK	2210 South Azusa Avenue West Covina, CA 90712	1995	10%

**TABLE 33  
1990 ESTIMATED WASTE DISPOSAL RATES**

Estimated Quantity Disposed			
Waste Source	Tons/Month	Tons/Year	% by Weight
Residential <sup>1</sup>	720	8,640	8.5
Commercial	2,620	31,440	31.0
Industrial			
Construction/Demolition	700	8,400	8.3
Other Industrial	4,170	50,040	49.4
Other			
City Services <sup>2</sup>	35	420	0.4
Self-Haul	200	2,400	2.4
Total	8,445	101,340	100.0
1. Includes waste from single- and multi-family dwellings. 2. Includes street sweeping and landscaping wastes hauled from City services.			



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### *Waste Diversion Characterization*

Several programs in the City effectively divert large quantities of waste from the landfills. Although curbside recycling is not currently implemented, several buy-back centers operate under the auspices of the Division of Recycling of the State Department of Conservation. There are both stand alone buy-back centers and centers located on grocery properties. The stand alone buy-back centers tend to accept a wider variety of materials. Residents of the City are also served by one diaper service.

Numerous commercial and industrial businesses are served by scrap processors who collect pre-separated materials. These materials may or may not have been processed to some degree. For instance, scrap metal usually is not processed at all by the generator, while cardboard may be baled either by the generator or by the recycler.

Within the City is a large green waste processing center that uses organic material both for mulching and a fuel source for cogeneration power plants. Also located within the City is a concrete and asphalt recycling facility. Other programs include a variety of in-house recycling programs.

The waste categories/types listed in Table 34 have been targeted as the priorities for waste diversion by means of source reduction. The criteria listed beside each waste category/type provide the reason for targeting that waste type or category for diversion.

**TABLE 34  
TARGETED MATERIALS AND CRITERIA FOR SELECTION**

Targeted Waste Category or Type	Criteria for Selection
Yard waste, including grass, leaves and prunings	1. Weight and volume of waste
Other organics, including wood waste, diapers, textiles and tires	1. Weight and volume of waste 2. Potential to extend the useful life of these materials, products or packaging 3. Extent to which these materials have limited recyclability
Paper, including corrugated containers, brown paper bags, newsprint, high grade paper and mixed paper	1. Weight and volume of waste 2. Potential to extend the useful life of these materials, products or packaging
Plastic, including containers, PET, HDPE, film and polystyrene	1. Weight and volume of waste 2. Hazard of waste 3. Extent to which these materials have limited recyclability 4. Extent to which these materials are made to nonrenewable resources

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Residential waste includes waste generated by single-family and multi-family dwelling units. Residential waste diversion includes source reduction, recycling at drop-off and buy-back centers, and composting. Materials being taken to the United Pacific green waste transfer station in Santa Fe Springs for mulching comprise 46% by weight of the residential waste diversion. Forty-eight percent by weight of the residential waste diversion occurs as a result of aluminum can recycling at centers operated under the auspices of the Division of Recycling of the State Department of Conservation, and can drives at the local high school. Plastic recycling and glass recycling are estimated to account for the remaining 6%.

Commercial solid waste includes solid waste originating from stores, business offices, commercial warehouses, government offices, etc. The commercial waste diversion category includes governmental waste diversion, such as the City's tree trimming operations. Of the commercial waste diverted from landfills, materials taken to United Pacific's green waste transfer station account for 30% by weight. Much of this materials comes from a company that has a contract with the City to perform tree trimming services.

Corrugated cardboard containers, which are generally baled at the point of generation, account for an additional 69% by weight of the commercial waste diversion. The remaining 1% of commercial waste diversion consists of auto batteries, aluminum and ferrous metals.

Industrial solid waste includes solid waste originating from manufacturing facilities, refineries and publicly operated treatment works. Approximately 40% of the industrial waste generated in the City is recycled. This high recycling rate is due to the types of industry and the recycling resources available in the City. Corrugated containers and ferrous metals recycling are the largest components of industrial waste diversion, at 35% and 33% of the total, respectively. Other materials that significantly contribute to the total are concrete (26%), and textiles (3%). The materials that make up the 4% balance are plastics, paper, tires and aluminum.

### **2. Source Reduction Component**

Source reduction simply means producing less waste. Because source reduction is intangible, it is difficult to quantify. Existing source reduction activities in Santa Fe Springs include the use of diaper services. Total diversion as a result of identified source reduction activities is 19 tons per year, which is less than one percent of the existing diversion in the City.

Four broad categories of source reduction activities are examined and evaluated. These categories are: 1) rate structure modifications; 2) economic incentives; 3) technical assistance and promotion; and 4) regulatory programs.

Expanded source reduction programs will result in an additional 5.7% diversion by 1995 and 11.7% by 2000. These programs do not require any major, new or expanded facilities. The

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effectiveness of these programs is tied directly to the education and public information activities undertaken by the City.

The following are specific source reduction objectives for the short-term planning period:

1. Through education and information programs and technical assistance programs, aim to do the following:
  - a. increase the purchase of repairable products by 2% by 1995
  - b. increase by 2% by 1995, the efficiency of the use of paper, cardboard, glass, metal and other materials by: 1) reducing waste from generators' production operations, processes, and equipment, and 2) considering durability, reusability and recyclability as product selection criteria.
2. Reduce the amount of yard waste generated from industrial parks by 2% by 1995.
3. By the end of 1993, develop and adopt a policy for City workers and contractors that encourages and/or requires nonprocurement activities, such as using ceramic cups or double-sided copiers, thereby providing leadership by example.
4. By the beginning of 1994, begin encouraging all non-residential generators to voluntarily adopt a nonprocurement policy tailored to their individual waste streams.
5. Develop a waste evaluation assistance program for non-residential generators by the beginning of 1994.
6. By the end of 1993, compile a waste exchange directory that can link waste generators and facilitate the exchange of discarded materials and products in a manner similar to the California Waste Exchange.

The following are objectives for the medium-term planning period:

1. Through continued and expanded education and information programs, and technical assistance programs, aim to do the following:
  - a. Reduce the use of nonrecyclable materials 5% by 2000.
  - b. Replace 5% of disposable materials and products with reusable materials and products by 2000.
  - c. Increase the purchase of repairable products 5% by 2000.



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- d. Increase efficiency five percent by the year 2000 for the use of paper, cardboard, glass, metal and other materials by: 1) reducing wastes from generators' production operations, processes, and equipment and 2) considering durability, reusability, and recyclability as product selection criteria.
- e. Develop and implement residential quantity-based users fees by the beginning of 1999, if needed.

### **3. Recycling Component**

Recycling is a process by which materials otherwise destined for disposal are collected, processed, and manufactured for reuse. One important purpose of recycling is to preserve the natural resources that go into manufactured goods. Also, recycling can reduce the environmental impacts associated with solid waste disposal. The recycling process includes four activities: separation, collection, processing and marketing.

Recycling activities within the City include buy-back centers, business recycling, material salvage by haulers, and routine cardboard recycling by major businesses. In addition, a number of private recycling activities are in place. The City currently diverts approximately 32,589 tons per year through recycling; this figure does not include concrete or tires which are discussed in the Special Waste Component. Recycling activities account for 76% of the existing diversion in the City and 22.7% of the overall waste stream.

To further increase recycling in Santa Fe Springs, a number of new programs will be implemented and existing programs expanded. These programs require capital expenditures for facilities and/or equipment including at-source separation and collection, and manual and mechanized material recovery operations. It is anticipated that implementation of these alternatives will result in an additional 1.6% diversion in the short-term (by 1995) and an additional 22.8% diversion in the medium-term (by 2000).

The following are specific objectives for the short-term planning period:

- 1. Initiate or augment buy-back and drop-off collection centers, if necessary, for glass, plastics, metals and wastepaper with the goal of recovering at least 400 tons per year.
- 2. Enact an ordinance requiring haulers to provide services to businesses by the end of 1994, for the recovery of readily available recyclable materials such as corrugated cardboard and high grade waste paper to divert at least 1,900 tons per year by 1995.



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3. Establish or revise an ordinance to require targeted businesses to submit a plan to the City describing their existing and planned diversion activities, and to report diversion quantities annually.
4. Provide public information in an annual program that will continue to increase participation in the existing collection center efforts.
5. Design and hold workshops for businesses on the new City program and on recovery of recyclables.
6. Continue the City facilities recycling program developed in 1992 that requires separation and recovery of all recyclable materials. This program is to be used as a "turn-key" example for businesses to follow.
7. Continue to encourage the development of additional markets for recycling by lobbying at the regional and State levels.
8. Work with adjoining jurisdictions on applying to the California Integrated Waste Management Board (CIWMB) for designation as a Market Development Zone (MDZ) by the middle of 1994.
9. Enact a City policy that encourages the procurement of products with recycled material content.
10. Work with neighboring communities and the private sector to site or develop a mixed waste materials recovery facility (MRF) to be owned by the City or other participating cities, or the private sector or a combination thereof, and to be used by local waste generators and/or other jurisdictions and their generators.

The following are specific objectives for the medium-term planning period:

1. Site and implement a mixed waste MRF (if environmentally, economically and institutionally feasible) within the City limits by no later than the middle of 1996 to help meet the diversion requirement of 50% of delivered wastes by 2000.
2. If a mixed waste MRF is not utilized by the middle of 1997, initiate residential collection of recyclables (glass, newspaper, beverage cans, mixed paper, corrugated cardboard, and plastic) to divert at least 500 tons per year.
3. Enact a mandatory recycling ordinance by the middle of 1996 that would require businesses to provide for the recovery of all recyclables including aluminum cans,

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glass bottles and jars, wood wastes, newspaper, plastics, mixed papers, and tin cans to divert at least 2,000 tons per year by 2000.

4. Encourage, through a public information campaign, the procurement of products containing recyclable material by area businesses.

Targets have been established based upon the analysis of categories and types of materials available for recycling. Five waste categories are targeted for diversion. Refer to Table 35.

TABLE 35 TARGETED RECYCLABLE MATERIALS		
Waste Category	Waste Type	Criteria for Selection as Target
Waste Paper	Newspaper, mixed paper and old corrugated containers (OCC)	Weight and volume
Plastics	High and low density polyethylene (HDPE and LDPE)	Volume, limit of recyclability, and extent of nonrenewability
Glass	All types	Weight
Other Organics	Wood and yard wastes	Weight
Metals	Tin cans and aluminum	Hazard of metallic constituents and extent of nonrenewability

### 4. Composting Component

Composting can play a key role in the City's integrated waste management system. Yard waste and readily decomposable material make up a significant portion of the total waste stream. In 1990, although composting programs were active in the City, the materials diverted were not countable towards composting.

For future programs, the City has targeted yard wastes, such as grass, leaves and prunings for composting. The composting program will be fully implemented in the short-term and continue through the medium-term. The primary elements of the composting program are voluntary self-haul of yard waste, decentralized pre-processing facilities, promotion and education, and various regulatory and financial measures. This program will contribute an additional 0.7% in the short-term and 1.8% diversion over the medium-term. The costs associated with implementation of the programs are primarily a result of the staff time required to initiate and maintain the programs.

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### **5. Special Waste Component**

Special waste includes difficult to handle materials, such as tires, construction debris, white goods, sofas, and mattresses; and potentially hazardous wastes, such as sewage, sludge, asbestos, auto bodies or ash. The SRE addressed only bulky items, such as white goods and tires, and inert solids, such as demolition and construction waste. At present, diversion programs for these materials result in 10,458 tons of concrete, tires and white goods being diverted from disposal (10,440 tons of inert materials).

Implementation of the alternatives will divert an additional 1,658 tons, or 1.1% per year from the waste stream in the short-term (by 1995) and an additional 4,188 tons, or 2.8% per year in the medium-term (by 2000).

### **6. Education and Public Information Component**

Based on the generators and targeted materials, a number of new programs are selected for implementation that target the residential sector, commercial/industrial sector, and schools. Two programs are recommended for the residential and commercial sectors, one for the schools and two programs for the governmental sector. All programs will be implemented within the short-term planning period and continue into the medium-term. Capital costs associated with implementation of the education and public information program are based on the total number of households (4,850) at a cost of \$0.30 per household. Annual costs are based on the staff time required to develop, implement and maintain the programs.

### **7. Disposal Facility Capacity Component**

Integrated waste management includes the environmentally safe disposal of solid waste that cannot be easily diverted from landfills. The City of Santa Fe Springs does not have its own landfill. All waste is exported for disposal at various landfills in Los Angeles County, including the Puente Hills, BKK and Spadra Landfills.

The City will need 173,608 cubic yards of capacity by the medium-term planning period assuming that no additional waste diversion occurs. If the State-mandated goals are achieved, the additional needed capacity will be 122,549 cubic yards by the year 2000.

The City currently has no plans to establish disposal facilities within the City. However, the City is in support of the expansion of the Puente Hills Landfill, and is in support of the Los Angeles County Solid Waste Management Action Plan.



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### **8. Funding Component**

The funding component demonstrates that the City has the ability to generate funds and allocate resources to plan, develop, and implement the various programs identified in the SRE. All current refuse collection and disposal activities are provided by the haulers; the City does not bill for the services. Costs for implementation of the various waste management activities will be funded through the Integrated Waste Management Surcharge, which is a one percent surcharge on industrial and commercial collection. The City also receives a franchise fee from each residential and commercial hauler.

The annual cost for all component programs will be approximately \$104,100, including the staff time required for maintenance of the various programs and monitoring and evaluation.

### **9. Integration Component**

This section provides a summary of the solid waste management practices proposed in the Source Reduction and Recycling Element. It includes explanations of how the programs work together to maximize the feasibility of source reduction, recycling and composting options and jointly achieve the diversion mandates. Consistent with the State's integrated waste management hierarchy, the City will promote source reduction activities targeted at decreasing the amount of solid waste being generated, recycling and composting programs will divert waste from disposal. If a waste cannot be diverted, the City will ensure that it is landfilled in an environmentally safe manner. The combination of component programs will divert an additional 9.1% of solid waste in the short-term and 39.1% in the medium-term. These figures, combined with the existing diversion rate of 30%, equal 39.1% diversion in the short-term and 69.1% diversion in the medium-term. This diversion, when realized by the year 2000 will exceed the State-mandated goal of 50%.

### **10. Household Hazardous Waste Element**

Household hazardous wastes are any household discarded materials that may threaten human health or the environment if disposed improperly. Potential hazards are found in materials that are toxic, flammable, corrosive or reactive.

The City of Santa Fe Springs will continue to participate in the periodic round-up events sponsored by the LACSD and Los Angeles County DPW until the permanent County program is in place. The City will also participate in the permanent County program, which will use mobile collection facilities for regularly scheduled collection events. The load-checking programs will continue at all landfills used by the City. There is no capital investment by the City for participation in the County program. The County will completely fund the permanent program and recover costs through a surcharge on the fees at all landfills in the County.



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### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED GENERATION OF SOLID WASTE***

***Impact Analysis:*** The City's Source Reduction and Recycling Element indicates that additional solid waste disposal capacity will be needed over its 15-year planning period. The additional capacity was estimated to reach 178,235 cubic yards per year under current diversion rates and 125,816 cubic yards assuming compliance with AB 939 diversion requirements.

***Policies Included in General Plan:*** The Source Reduction and Recycling Element and the Household Hazardous Waste Element contain programs that represent mitigation for the potential shortfall in waste disposal capacity.

***Additional Mitigation Measures Required:*** None.

***Level of Significance After Mitigation:*** Less than significant.

#### **4.7.10 Parks and Recreation**

##### **A. Environmental Setting**

The City of Santa Fe Springs currently has approximately 149 acres of public open space, consisting of schools, parks and recreation facilities developed within the City limits (see Table 36). The City has entered into cooperative agreements with the school districts that operate within the City to make their open space and recreational facilities available to the general public. Whittier Union School District, Little Lake School District and the Los Nietos School District all have joint-use agreements with the City. In turn, the City offers financial and maintenance support in the upkeep and improvement of these sites and makes available to the districts all City owned parks and recreational facilities on a priority basis. Not quantified in the Santa Fe Springs open space inventory is privately-owned land that serves as open space. This category includes land owned by local utility companies or land set aside as right-of-way. The City's three cemeteries also provide approximately 21 acres of open space which serve their surrounding neighborhoods as places of scenic beauty, quiet solitude and passive enjoyment.

In addition, there are a number of park, recreation and school facilities located in adjacent cities which are in close proximity to City residents and available for their use. These include: York field in Whittier, Carmenita Park in La Mirada and Amelia Mayberry Park in the County of Los Angeles. The City has developed cooperative agreements with the County, South Whittier Coordinating Council and the City of Whittier to ensure the maintenance of these facilities.

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**TABLE 36  
OPEN SPACE, PARKS AND RECREATION FACILITIES**

Name	Acres	Facilities
<b>Parks and Parkettes</b>		
Heritage Park	6.10	
Little Lake Park	19.73	Baseball, Basketball, Football, Soccer, Softball, Volleyball
Los Nietos Park	10.93	Baseball, Basketball, Football, Handball, Soccer, Softball, Tennis, Volleyball
Santa Fe Springs Park	14.89	Basketball, Football, Handball, Soccer, Softball, Volleyball
Bradwell Parkette	0.16	
Davenrich Parkette	0.13	
Longworth Parkette	0.34	
Mersin Parkette	0.33	
Rancho Santa Gertrudes Parkette	0.34	
Smith Road Parkette	0.69	
<b>Joint Use/Park Facilities</b>		
Carmela Child Development Center	10.48	
Jersey Avenue Elementary/Santa Fe Springs Athletic Park	11.08	Baseball, Tennis
Lake Center Middle School/Athletic Park	9.24	
Lake View Elementary/Park	9.68	
Rancho Santa Gertrudes Elementary	6.22	
Santa Fe Springs High School	30.06	Baseball, Basketball, Football, Soccer, Softball, Tennis, Track, Volleyball
St. Paul High School	13.46	Baseball, Football, Soccer, Track
St. Pius X School	3.27	
<b>Community Cultural Sites</b>		
Clarke Estate	5.79	
Community Gardens	1.75	
Town Center Greens	2.10	
<b>Athletic Facilities</b>		
Aquatic Center	NA	Swimming
Love Center Athletic Park	NA	Baseball, Basketball, Football, Handball, Soccer, Softball, Track, Volleyball



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NRPA suggests that a municipal park system be composed of a core of parkland at a ratio of 6.5 to 10.5 acres of useable open space per 1,000 residents. SCAG has also established a minimum planning standard, adopted by Los Angeles County, for local recreational facilities in urbanized areas of 4 acres of open space per 1,000 residents. The figure of 2.5 acres per 1,000 residents is suggested for use by SCAG for determining priorities for meeting present needs. The current open space ratio for the City of Santa Fe Springs, based upon 149 acres of open space and a 1990 population of 15,520 is approximately 9.6 acres per 1,000 residents.<sup>8</sup> Based upon the NRPA and SCAG recommended planning standards, the City currently has a sufficient amount of open space to serve its current population.

The City has established three types of parks based upon National Recreation and Parks Association (NRPA) guidelines:

Parkettes are specialized facilities that serve a concentrated or limited population or specific group such as senior citizens or tots. The service area is less than a one-quarter mile radius and they are typically less than an acre in size. NRPA suggests a ratio of 0.25 to 0.5 acres of parkettes per 1,000 residents and recommends that they be located within neighborhoods and in close proximity to apartment complexes, townhouse developments and housing for the elderly.

Neighborhood Parks/Playgrounds are designed to serve a local population of up to 5,000 people. Their service radius is one-quarter to one-half mile, and they are usually up to 15 acres in size. NRPA recommends a ratio of 1.0 to 2.0 acres per 1,000 residents. These parks are intended to serve areas of intense development. They should be easily accessible to the entire neighborhood population by being geographically centered within the neighborhood they serve with easy and safe walking and bike access. Most school-park joint use facilities fall into this category.

Community Parks are areas of diverse environmental quality which may include large recreational facilities such as athletic complexes or swimming pools. They may also include natural areas for outdoor recreation such as walking, viewing, sitting or picnicking. Their service radius is usually 1 to 2 miles and they may be up to 25 acres in size. NRPA recommends a ratio of 5.0 to 8.0 acres per 1,000 residents.

### 1. Existing Open Space, Parks and Recreation Facilities

The existing open space, park and recreation facilities available to residents of Santa Fe Springs are identified in Table 36.

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<sup>8</sup> Use of the 1992 population estimate for the City of 15,500 would result in the same open space ratio of 9.6 acres per 1,000 population.

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### **2. Proposed Open Space, Park and Recreation Facilities**

Proposed facilities have the potential to enhance the total quantity and quality of the open space and recreational facilities within the City. The following facilities are either under construction or in the planning stages:

Baseball Learning Center which is under construction at Little Lake Park. The center will consist of nine batting stations for baseball and slow/fast pitch softball, practice areas for fielding and pitching, and a building for program control and storage.

Senior Citizens Center expansion at the Lake Center Athletic Park. When completed, the center will include multi-purpose facilities for recreation, nutrition and library outreach services.

Golf Learning Center and 18-Hole Golf Course conceptual master plan.

Santa Fe Springs Park Expansion land acquisition. To upgrade the park, a new building to house staff and new restroom facilities has been completed, and plans to replace the basketball and volleyball courts are being finalized. Formal master plans have not yet been developed.

In addition to the sites described above that are either in the planning, design or construction phases, several sites have been identified by the City for potential open space and recreation use. These sites include the three Special Study Areas, the Southern California Edison properties, the McMaster-Carr property and the Santa Fe Springs and Norwalk Drive-in properties. The City has established that any planning for future development on these sites should consider the following:

Industrial Area Mini Parks would include small grass areas, trees, picnic tables, barbecues and possibly a half basketball court or horseshoe areas. The purpose would be to provide business and industrial employees a place to relax and recreate during lunch or after work. These facilities would be relatively small in size and could be strategically placed in business park areas.

Formal Picnic Areas would be somewhat larger than the industrial mini parks and would provide for large company or family picnics, able to accommodate 300 to 400 participants. Each of the facilities would provide covered tables and adequate seating, barbecues, sinks, restrooms, horseshoe courts, volleyball areas, etc. and could possibly include a small grass game field.

Water Features such as small lakes, ponds and possibly streams could be utilized to provide open space areas either alone or in conjunction with other open space uses. The water feature could be designed to accommodate passive activities or active ones such as fishing. The City plans to investigate the incorporation of a water feature at Santa Fe Springs Park where there is adequate space and at any future golf course development.



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Physical Fitness Areas provide open space for exercise such as walking, jogging or biking. They can be incorporated into other open space areas such as water features, a golf course or park.

Sports Fields or a "complex" for adult and youth sports in an industrial area could offer lunchtime and after-work organized athletic leagues. The facility should have lighted softball and soccer fields for use at night.

Parks to meet the needs of future residential developments could range from mini-parks to full-size facilities depending upon the size and nature of development.

Trails for walking and biking are a relatively easy way to provide open space and recreational facilities. They can also connect parklands to other open space areas, help to shape urban form and act as buffers between urban areas. If properly designed, trails can feed into transportation centers, thereby relieving the reliance on vehicular travel. The vast railroad system in the City, with its associated right-of-way property, presents the City with a unique opportunity to create an impressive trail system.

Formal Gardens with topiaries, flowers, benches and possibly a reflecting pond could provide a quiet retreat for residential and business/industrial communities.

Child Care Facilities especially in industrial areas will become increasingly important as a way to attract and retain employees, as the trend toward working parents continues. Child care facilities should be designed to accommodate both day care and after school programs.

### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED DEMAND FOR PARKS AND RECREATION SERVICES***

***Impact Analysis:*** The population of Santa Fe Springs is stable and little additional demand for park and recreation facilities is anticipated.

***Policies Included in General Plan:*** The Open Space Element contains a number of policies relevant to this issue.

- 2.1 Ensure that the open space to resident population ratio remains at 9.0 acres per 1,000 residents or higher.
- 2.2 Continue to promote public/private partnerships in the development of open space and recreation facilities in both private and public projects.
- 2.3 Continue to promote the development of open space and recreational facilities within commercial, industrial and residential developments.

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- 2.4 Actively pursue available funding sources for parkland acquisition, development and maintenance.
- 2.5 Continue to foster the joint use of school district and City park facilities.
- 2.6 Expand the Santa Fe Springs Park by developing as additional park area the Southern California Edison right-of-way easement area adjacent to the San Gabriel River. This expansion should consider the creation of a lake or other major water feature at this site.
- 2.7 Continue to conduct and expand the Special Events activities coordinated by the Recreation Division of the Department of Community Services.
- 2.8 Investigate the possibility of forming operating agreements with public utilities and railroad property owners to develop their rights-of-way and easements as trails and other related open space.

***Additional Mitigation Measures Required:*** None.

***Level of Significance After Mitigation:*** Less than significant.

### **4.7.11 Library Facilities**

#### **A. Environmental Setting**

The City of Santa Fe Springs maintains the City Library at 11700 Telegraph Road. The library facility occupies 15,400 square feet and contains approximately 90,000 volumes, including books, periodicals, microforms, compact discs, books-on-tape and videos. The City Library provides the following special services: weekly story hour for preschoolers, class visits, summer book club, and literacy tutoring for adults and children. The City has tried to address the needs of employers located in the City, purchasing more business reference materials, tax forms, management videos, etc., as well as materials to meet the educational and recreational needs of the residents. The Santa Fe Springs City Library is the only library facility in the City. There are Los Angeles County Library branches in the nearby communities of Norwalk and Pico Rivera. Use of these facilities by Santa Fe Springs residents is estimated to be small.

The library currently has approximately six volumes per capita, which is higher than the state standard. The library is rapidly approaching its maximum capacity to house the collection. The City is beginning an intensive "weeding" project to provide more space for new materials. The building will eventually be able to house a maximum of 95,000 volumes. Seating is filled to capacity on most nights and there is no space to provide additional tables. An online public access catalog, which became available in September 1993, will further reduce space available for library materials. Meeting room space is limited. The meeting room seats approximately 75

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to 80 people and is used for library programs and by community groups. Aside from the reading lab, which has three study carrels and is used by adult literacy students and tutors, the library has no space for small conferences or for students to work together. There are no planned additions to the Santa Fe Springs City Library at this time.

There are several groups in the City underserved by library services. These include high school students, seniors, and individuals with low reading skills. The City has indicated that it is difficult to keep up with the complex curriculum needs of high school students with the existing library materials budget. For senior citizens, the biggest problem is that many find it difficult to travel to the library. For people with low reading skills, the City is attempting to increase library use by providing literacy services to both adults and children.

The Santa Fe Springs City Library's level of use has increased in the last few years. Circulation of materials in 1991/92 was 5% higher than in 1989/90. In-house use of the library has increased even more dramatically: librarians answered 30% more reference questions in 1991/92 than they did in 1989/90. Between July 1992 and January 1993, the number of reference questions answered was 50% higher than during the same period in 1991/92. During the first part of 1993, the library saw an increase of approximately 10% in loans to residents who live north of Telegraph Road. The library attributes this trend to the increased number of school-age students in this area. The overall higher use of the library can be attributed to the recession, when people facing unemployment need to improve their skills or acquire new ones.

The current revenue sources for the library are the City's general fund, the State of California (for adult literacy services, family literacy services, direct loans to nonresidents, and interlibrary loans), fines and fees, and donations.

The Santa Fe Springs City Library has identified the following issues of importance: 1) to continue to provide literacy services to adults and children; 2) to continue to provide quality programs for children; 3) to provide materials and reference services to both the residents and industrial residents; and, 4) to meet the needs of the "underserved" segments of the population.



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### **B. Environmental Impacts and Mitigation Measures**

#### ***IMPACT: INCREASED DEMAND FOR LIBRARY SERVICES***

**Impact Analysis:** Current library facilities are adequate to serve the existing population of Santa Fe Springs. Since the population is not expected to grow substantially, impacts to library services are not anticipated.

**Policies Included in General Plan:** None.

**Additional Mitigation Measures Required:** None.

**Level of Significance After Mitigation:** Less than significant.

### **4.8 Population/Housing/Employment**

#### **4.8.1 Environmental Setting**

The following discussion of population, employment and housing compares conditions in the City of Santa Fe Springs with the SCAG region, Los Angeles County and SELAC subregion.<sup>9</sup> The currently adopted plan for the region is the 1989 Growth Management Plan (GMP) prepared by SCAG, which was prepared prior to the 1990 Census. The discrepancies between these data sets is indicative of the unanticipated population growth and economic downturn which have occurred since the 1989 Plan was prepared. SCAG is in the process of finalizing the 1994 Regional Comprehensive Plan (RCP) with input from the thirteen subregions. The RCP includes population, housing and employment projections for the year 2010. The RCP figures have not yet been adopted by the SCAG Regional Council.

#### **A. Population**

##### **1. Population Growth Trends**

During the past several decades, the SCAG region, including Imperial, Riverside, San Bernardino, Los Angeles, Orange and Ventura counties has been one of the fastest growing regions in the nation. Between 1950 and 1970, the population doubled in size, growing at a rate of 5% per

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<sup>9</sup> The SELAC Subregion refers to the geographic area defined by SCAG. Data for the SELAC Subregion is from the April 1994 Regional Comprehensive Plan (RCP). Southeast Cities refers to the cities of Artesia, Bell, Bellflower, Bell Gardens, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, Lakewood, La Mirada, Long Beach, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon and Whittier. Data for the Southeast Cities is from the SELAC RCP Program, Appendix K4, prepared July 30, 1993.



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year. The 1980 Census indicates that 11.6 million people resided in the region (Table 37). Between 1980 and 1990, the region's population grew by over 25% to 14.6 million in 1990. Recent SCAG projections indicate that the region's population will increase by another 40% to 20.5 million by the year 2010.<sup>10</sup>

During this same ten-year period, the population of Los Angeles County increased by 18.5% from 7,477,503 to 8,860,000, reflecting the built-out character of the county compared with other counties in the region.<sup>11</sup> Southeast Cities grew at a faster rate than the region and the County during the 1980s, increasing by 28.9%, from 1,222,014 to 1,575,718. Recent projections for the year 2010 indicate that the population of the Southeast Cities will increase by 12.9% to 1,779,061.<sup>12</sup>

The population growth rate between 1980 and 1990 of 6.9% for Santa Fe Springs was slower than for its neighboring jurisdictions. Although population growth in Santa Fe Springs was slower than in the region and subregion during the 1980s, this decade represents a period of relatively rapid growth for the City compared with previous decades during which the city actually lost population. Between 1960 and 1990 Santa Fe Springs experienced a net decrease in population of 980, from 16,500 in 1960 to 15,520 in 1990 (Table 38).<sup>13</sup> The population declined at an average annual rate of 1.1% and 0.2% during the 1960s and 1970s, respectively, while during the 1980s, the population increased at an average annual rate of 0.7%. Between 1980 and 1990 the population of Santa Fe Springs increased by 6.9%, from 14,521 to 15,520, largely due to an increase in the multi-family housing stock.<sup>14</sup> Recent projections for Santa Fe Springs indicate that population will increase to 17,483 by the year 2010.<sup>15</sup>

Based upon the Land Use Element of the General Plan, the population of the City at buildout is anticipated to be 16,936. This number, which is based on land use capacity assuming household size of 3.33 persons per dwelling unit, is somewhat lower than the population based on the

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<sup>10</sup> SCAG. Regional Comprehensive Plan. April 1994.

<sup>11</sup> Stanley R. Hoffman Associates, Inc. SELAC Air Quality Consortium Socioeconomic Profile, from the 1990 Census, "Summary File 3A" and SCAG projections. March 1993.

<sup>12</sup> SELAC RCP Program. Appendix K4. Revised Final Projections. July 30, 1993.

Six of the Southeast Cities do not concur with the revised final projections prepared by SCAG for the subregion. Assuming adjustments to the population projections for these cities, the 2010 population projection for the Southeast Cities would be 1,776,086, compared with the SCAG figure of 1,779,061.

<sup>13</sup> City of Santa Fe Springs. Housing Element. December 1991.

<sup>14</sup> Ibid.

<sup>15</sup> SELAC RCP Program. Appendix K4. Revised Final Projections. July 30, 1993.

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projection of demographic characteristics. Consequently, use of the higher figure developed through the RCP process represents a contingency built into the General Plan that recognizes the need to accommodate additional affordable housing units in areas not currently designated for residential use, the potential for household size to increase, and housing vacancy factors.

**TABLE 37  
POPULATION GROWTH  
1980-1990**

<b>Geographic Area</b>	<b>1980 Population</b>	<b>1990 Population</b>	<b>Percent Change</b>
SCAG Region (in millions)	11.6	14.6	25.9
Los Angeles County	7,477,503	8,860,000	18.5
Southeast Cities	1,222,014	1,575,718	28.9
<b>Santa Fe Springs</b>	<b>14,521</b>	<b>15,520</b>	<b>6.9</b>

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### 2. Population Race and Ethnicity

A portion of the recent population increase (1980-1990) may be attributed to the high percentage of persons with Hispanic ethnic origins living in Santa Fe Springs. Immigrants from Mexico, Cuba, Central, and South America appear to be relocating in the Santa Fe Springs area. An estimated 60.4% of the population in 1980 and 66.8% of the population in 1990 identified themselves as of Spanish/Hispanic origins. Hispanic origin can be viewed as the ancestry, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the U.S. Persons of Hispanic origin may be of any race.<sup>16</sup> In 1989, approximately 57% of the population of Santa Fe Springs defined themselves as White, 2% as Black, 0.6% as American Indian, 5% as Asian/Pacific Islander and 35.4% as Other.

**TABLE 38**  
**POPULATION GROWTH IN SANTA FE SPRINGS**  
**1960-1990**

Year	Population <sup>1</sup>	Interval in Years	Population Increase/Decrease	% Difference	Average Annual Increase/Decrease	% Difference per year
1960	16,500					
1970	14,750	10	-1,750	-10.6	-175	-1.1
1980	14,521	10	-230	-1.6	-23	-0.2
1990	15,520	10	+999	6.9	+100	0.7
TOTAL:		30	-980	-5.9	-32.7	-0.2

<sup>1</sup> Population counts for 1970, 1980 and 1990 from the U.S. Census Record.

### 3. Age Distribution

Between 1980 and 1990, the population increased in all age categories, with the exception of the school age population (5-19) which declined by 1.3%. The senior category showed the greatest increase (7.6%). This significant growth in the City's elderly population is largely a result of two senior housing projects developed in the late 1980s, providing over 316 units of senior housing.<sup>17</sup> Seniors (65+ years of age) represent 11.6% of the population, while the highest percentage of the population (56.4%) falls within the working age category of 19 to 64, followed

<sup>16</sup> State of California, Department of Finance. 1990 Census STF 3 Standard 6-Page Profile, Definitions for STF 3.

<sup>17</sup> City of Santa Fe Springs. Housing Element. December 1991.



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by the school age category of 5 to 18 years of age (23.7%). The pre-school category of 0 to 4 represents the smallest percentage of the population (8.3%).

### **B. Housing**

#### **1. Housing Units**

Santa Fe Springs is dominated by industrial land uses, with limited areas of residential use. In 1980, the City of Santa Fe Springs had 4,382 dwelling units, with 103 vacancies, yielding a 2.4% vacancy rate. By 1990 there were an estimated 4,817 dwelling units, with 161 vacancies, resulting in an increase in the vacancy rate to 3.3%. A measure of an adequate supply of housing units is a vacancy rate of 5%.

The total number of dwelling units increased by 9.9% or 435 units between 1980 and 1990. In 1990, approximately 67% of all housing units were single-family residential uses. The remaining 33% of the housing stock consisted of 27.1% multi-family units, and 4.1% mobile homes. Although the single-family home is the most prevalent housing unit type in Santa Fe Springs, during the last ten years the City experienced a multi-family unit growth rate of 27.1%, while the proportion of single-family units increased only 0.9%.<sup>18</sup> Two senior citizen housing projects contributed to the recent growth in multi-family housing in the City.<sup>19</sup>

Housing unit projections show an increase of 4.5% to 5,035 by the year 2010.<sup>20</sup> According to the General Plan, buildout would result in 5,086 housing units in the city.

According to the 1990 Census, there were 5.3 million housing units in the SCAG region. The latest RCP projection is 7.2 million housing units in the region by the year 2010, compared with a regional population projection of 20.5 million. In the SELAC Subregion, there were 604,000 housing units in 1990, which is projected to increase by 11.0% to 670,000 by 2010.<sup>21</sup>

#### **2. Households**

A household consists of all persons, related family members and all unrelated persons, who occupy a housing unit. The number of households may vary somewhat from the dwelling unit counts because even a single room is regarded as a housing unit when occupied or intended for

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<sup>18</sup> Stanley R. Hoffman Associates, Inc. March 1993.

<sup>19</sup> City of Santa Fe Springs. Housing Element. December 1991.

<sup>20</sup> Stanley R. Hoffman Associates, Inc. March 1993.

<sup>21</sup> SCAG. Regional Comprehensive Plan. April 1994.



occupancy as separate living quarters.<sup>22</sup> Based on the Census, in 1980 there were an estimated 4,219 households in Santa Fe Springs. By 1990 there were an estimated 4,651 households in the City. The average household size in Santa Fe Springs in 1980 was 3.44 persons per household, which decreased to 3.33 persons per household by 1990. By comparison, average household size for the Southeast Cities grew from 2.81 to 3.12 during the same period.<sup>23</sup> Households in Santa Fe Springs are projected to increase to 5,136 by the year 2010.<sup>24</sup>

### 3. Housing Values

Median housing values in Santa Fe Springs increased by \$101.8 thousand to reach \$168.2 thousand in 1990. This is approximately \$32.5 thousand below the median for the Southeast Cities, and well below the \$223.8 median value for Los Angeles County. The median rents in the City increased from \$262 in 1980 to \$629 in 1990, which is close to the median rent for the Southeast Cities.

### 4. Housing Needs

The 1988 Regional Housing Needs Assessment (RHNA) prepared by SCAG identifies each jurisdiction's contribution towards meeting the need for affordable housing. According to the RHNA, an estimated 803 (or 51%) of all Santa Fe Springs households were identified as lower income households overpaying for their rent or mortgage payment as of January 1, 1988. According to state and federal standards, housing overpayment occurs if more than 30% of household income is used for shelter payments. Lower income households (including very low and low) are defined as those for which the total household income is less than 80% of the County median.

The Los Angeles County median household income based on the 1980 Census was \$17,551. The number of persons in lower income households overpaying for their shelter needs is equivalent to the Existing Housing Need by income and tenure identified in the RHNA. Of the lower income households in Santa Fe Springs overpaying for housing, 545 were described as very low and 258 as low income households. The majority of the low income overpaying households in Santa Fe Springs (71%) were renters.<sup>25</sup> Overpaying for shelter for renters is generally considered more critical than for home owners, since homeownership is an investment and an owner always maintains the option of selling the home.

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<sup>22</sup> Bureau of U.S. Labor Statistics. Handbook of Labor Statistics, Bull. 2340, p. 3. August 1989.

<sup>23</sup> Stanley R. Hoffman Associates. March 1993.

<sup>24</sup> SELAC RCP Program. Appendix K4. Revised Final Projections. July 30, 1993.

<sup>25</sup> SCAG. Revised Regional Housing Needs Assessment. December 1988.

State law requires jurisdictions to provide for their share of regional housing needs. SCAG has determined the 1989-1994 needs for the City of Santa Fe Springs, and has estimated the number of households that the City will be expected to accommodate during this period. Future housing needs reflect the number of new units needed in a jurisdiction based on households that are expected to reside within the jurisdiction (future demand), plus an adequate supply of vacant housing to assure mobility and new units to replace losses. The RHNA forecast considered on a regional and local level: market demand for housing, employment opportunities, availability of suitable sites for public facilities, commuting patterns, type and tenure of housing needs, and housing needs of farm workers. Based on these factors, the 1989-1994 Future Need for Santa Fe Springs is 304 units which would need to be added to the City's June 30, 1989 total number of households by July 1994 to fulfill the City's share of regional housing needs. Of the 304 units needed in the City, it was determined that an estimated 112 new units should be affordable to households in the very low and low income categories.<sup>26</sup>

### C. Employment

#### 1. Employment Opportunities

Employment opportunities are based on place of work and may be filled by residents or non-residents who commute to a jurisdiction for employment. Total employment opportunities in the SCAG region were 4.3 million in 1972 and rose to 5.9 million by 1984. Between the late 1970s and late 1980s there was a dramatic increase in employment opportunities in the region. Recent RCP projections indicate that regional employment will reach 9.7 million by the year 2010. Employment in the SELAC Subregion is expected to reach 1,116,000 by 2010, representing a 20.9% increase over the 1990 level of 923,000.<sup>27</sup>

Santa Fe Springs's economy, like the rest of the county, has weakened recently as a result of the recession, although not as dramatically as many of its neighboring communities. According to the Census, there were 58,991 jobs in the City in 1990. In February 1992 there were an estimated 56,247 jobs in Santa Fe Springs.<sup>28</sup> This represents a net increase of 12.0% or 6,018 jobs over 1983 employment of 50,229. The average annual growth rate for this period for Santa Fe Springs of 1.3% is less than the Los Angeles County growth rate of 1.8%. The rate of growth for Santa Fe Springs is comparable to the rate of growth for the Southeast Cities, although the

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<sup>26</sup> SCAG. Revised Regional Housing Needs Assessment. December 1988.  
City of Santa Fe Springs. Housing Element. December 1991.

<sup>27</sup> SCAG. Regional Comprehensive Plan. April 1994.

<sup>28</sup> Stanley R. Hoffman Associates, Inc. SELAC Air Quality Consortium Socioeconomic Profile. Estimate based on 1990 County Business Patterns, 1992 Urban Decision Systems estimates for Los Angeles County, and data provided by the State of California Department of Finance. March 1993.



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City of Santa Fe Springs ranked only second behind the City of Long Beach in the absolute number of jobs created during the nine-year period. In fact, nine of the twenty-one Southeast Cities lost employment during this period. Of the employment growth in the City, 87% occurred in two industries: manufacturing increased by 2,748 jobs and wholesale trade increased by 2,494 jobs. Job categories with a net decrease during this period include mining, retail trade and services.

Recent projections suggest that future growth in Santa Fe Springs will be at an average annual rate of 1.1%, with an increase of 12,494 jobs in the City by the year 2010 for a total of 71,485.<sup>29</sup>

### 2. Labor Force

Estimates of the civilian labor force include employed persons greater than 16 years of age, by place of residence. Included in this category are workers involved in labor disputes, the self-employed, unpaid family workers and unemployed persons actively seeking employment. The category of employed workers does not include members of the armed forces or the "discouraged" unemployed who have given up looking for work. In 1990, there were 7,327 persons in the civilian labor force in Santa Fe Springs. Of this total, 8.6% were unemployed. By comparison, 7.7% of the population of the Southeast Cities and 7.4% of the population in Los Angeles County were unemployed in 1990.<sup>30</sup>

More recent estimates indicate that, as a whole, Los Angeles County had a February 1992 unemployment rate of 9.9% (the highest unemployment rate since July 1984, when it peaked at 9.5%). By March 1992, the County saw an improvement, when 9.0%, or 403,000 Los Angeles County workers were seeking employment. In contrast, the county had an unemployment rate of 6.9% in March of 1991.<sup>31</sup>

The unemployment rates for Santa Fe Springs, the Southeast Cities and Los Angeles County were considerably higher than the State's civilian unemployment rate (seasonally adjusted) which was 8.5% in March 1992 compared with 7.5% in March 1991. The State rate of unemployment, which was 7.3% in March 1992 and 6.7% in March 1991, was higher than the unemployment rate for the nation.<sup>32</sup>

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<sup>29</sup> SELAC RCP Program. Appendix K4. July 30, 1994.

<sup>30</sup> Stanley R. Hoffman Associates, Inc. March 1993.

<sup>31</sup> State of California Employment Development Department, Labor Market Information Division, April 3, 1992. News Release by Jay D. Horowitz, Labor Market Analyst for Los Angeles County.

<sup>32</sup> Ibid.

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### D. Jobs/Housing Balance

In 1990, Santa Fe Springs had a jobs/housing ratio of 12.25 or 58,991 jobs to 4,817 housing units (Table 39). According to the 1990 Census, only 1,403 persons worked in their jurisdiction of residence. Under buildout of the General Plan, the City will have a jobs/housing ratio of 14.1 (Table 40).

Analysis of the regional jobs/housing balance is accomplished at the subregional level. Recent RCP figures result in a 1990 ratio for the SELAC Subregion of 1.53 (923,000 jobs to 604,000 housing units), which is projected to increase to 1.67 (1,116,000 jobs to 670,000 housing units) by 2010. During the same period, the Los Angeles County jobs/housing ratio will remain at 1.46, while the SCAG regional ratio will increase slightly from 1.33 to 1.34. Compared with the Subregion, County and Region, Santa Fe Springs is jobs-rich in both 1990 and 2010. Opportunities to add housing in Santa Fe Springs may be more constrained than in other communities in the subregion, due to its past intensive use as an industrial area and the limited land available for residential development.

Current SCAG policy is that each subregion shall strive to achieve a balanced jobs/housing ratio, comparable to the regional average, by the year 2010. The jobs/housing ratio for the SELAC Subregion was higher than the regional average in 1990 and will be even higher in the year 2010.

**TABLE 39**  
**1990 JOBS/HOUSING RATIO**

	<b>Santa Fe Springs</b>	<b>SELAC Subregion</b>	<b>Los Angeles County</b>	<b>SCAG Region</b>
Jobs	58,991	923,000	5,084,000	7,076,000
Housing Units	4,817	604,000	3,472,000	5,328,000
Jobs/Housing Units	12.25	1.53	1.46	1.33

Source: SCAG RCP. April 1994.

SELAC RCP Program. Appendix K4. Revised Final Projections. July 30, 1994.



**TABLE 40**  
**2010 JOBS/HOUSING RATIO**

	<b>Santa Fe Springs</b>	<b>SELAC Subregion</b>	<b>Los Angeles County</b>	<b>SCAG Region</b>
Jobs	71,485	1,116,000	5,670,000	9,691,000
Housing Units	5,086	670,000	3,872,000	7,249,000
Jobs/Housing Units	14.1	1.82	1.46	1.34
Source: SCAG RCP. April 1994. Santa Fe Springs General Plan.				

#### 4.8.2 Environmental Impacts and Mitigation Measures

**IMPACT: *POTENTIAL IMBALANCE BETWEEN AVAILABLE JOBS, PROJECTED POPULATION AND AVAILABLE HOUSING***

*Impact Analysis:* The potential for environmental impacts on population, housing, and employment opportunities from the General Plan are based on the proposed land uses at buildout. A detailed discussion of the proposed changes in land use is included in Section 4.1, Land Use/General Plan/Zoning. Because this is a program level EIR, the estimates for employment opportunities to be generated are quite broad. The true impacts on population, housing, and employment would be dependent upon the actual future mix of tenants occupying each development project. Other considerations which have potential to affect socioeconomic impacts once the General Plan is implemented include: the future state of the economy in the region, project-level development, future vacancy rate for non-residential development, and future policy established with updates of the Regional Housing Needs Assessment which is to be revised in 1996. These additional considerations cannot be fully addressed at this time.

The City of Santa Fe Springs is nearing its buildout potential for residential development. Approximately 10% (477 acres) of the City's 4,751 acres are currently zoned for residential uses, and none of this residentially zoned land is currently vacant. Although there is vacant land in both the commercial and industrial zoned categories, in many of these areas residential development would be inappropriate, due to the potential for past hazardous materials releases and/or incompatible adjacent land uses. Development of residential uses at such sites would require a Hazardous Waste Release Site determination by the Cal-EPA Department of Toxic Substance Control, Technical Services Branch, Land Use and Air Assessment Unit (Health and Safety Code Sections 25220 et seq.). However, the City has identified approximately 54 acres

of additional (non-residentially zoned) land with potential for future development for residential uses. This land could accommodate affordable housing units.<sup>33</sup>

Under the proposed General Plan, only 269 new dwelling units are expected to be added over the 1990 level of 4,817 dwelling units. Using the current rate of 3.33 persons per household, the resident population would increase by an estimated 896 persons, for a population at buildout of about 16,936 residents, a 6.5% increase. This may be somewhat of an underestimate, since it assumes that the rate of natural increase and persons per household have stabilized and that overcrowding does not increase. There are many new immigrants living in Santa Fe Springs, and the larger than average household size is in part attributed to differences in cultural attitudes about ideal family size. Also, there tends to be less focus on the "nuclear family," and households with multiple generations living under one roof is not uncommon in some populations, particularly in the Latino population. Nevertheless, with limited potential to add new housing in the City, the potential for future increase in resident population is expected to be insignificant. The proposed development under the General Plan is not expected to significantly increase the population in the SELAC Subregion, since only 269 new residential units would be added over the 1990 level. This represents less than 1% of the total projected increase in population for the SELAC Subregion for the year 2010.

Most of the policy focus in the City of Santa Fe Springs Housing Element is to conserve and rehabilitate existing housing and to reduce impacts on lower income and other special needs households through provision of social support, including financial support. These types of programs are not likely to increase population, especially since many social service programs, such as Section 8, are in high demand and may have long waiting lists of current residents which would have priority over persons moving into the area from other jurisdictions.

The City of Santa Fe Springs has included a wide range of objectives for its Five-Year Housing Program, including: low-interest rehabilitation loans, deferred rehabilitation loans, a Home Improvement Rebate Program, a Home Repair Program, a Home Acquisition and Rehabilitation Program, a Home Demolition and New Construction Program, Property Maintenance Program, Residential Rental Inspection Program, Santa Fe Springs Rental Assistance Program (Section 8-Existing), Los Angeles County Rental Assistance Program (Section 8-Existing), provision of adequate sites and incentives for housing development, a Fair Housing Program, and Social Service Program for Special Needs Groups. Details of these programs are provided in the Housing Element.

There may be an increase in housing demand created by the projected employment growth, which may or may not be filled by Santa Fe Springs residents. However, the increase in housing demand is not expected to be significant, because there is a need for job creation in the subregion

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<sup>33</sup> City of Santa Fe Springs. Housing Element. December 1991.



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as a whole and, in particular, the communities immediately adjacent to Santa Fe Springs. It is assumed that the addition of job opportunities in low to moderate income categories would provide little incentive for employees to commute long-distances from outside the immediate area. Unemployed or underemployed persons living in Santa Fe Springs and the surrounding, largely residential communities, could be expected to absorb most or all of the employment opportunities. The proposed development would offset some of the adverse impacts of unemployment and economic depression which have occurred within the SELAC Subregion.

***Policies Included in the General Plan:*** The Housing Element contains 13 policies related to the issue adequate and affordable housing, in balance with the needs of the City and the SELAC Subregion.

- 2.1 Provide adequate sites to facilitate the development of a range of residential development types in Santa Fe Springs which fulfill regional housing needs, including low density single-family uses, moderate density townhomes, and higher density apartments and condominiums.
- 2.2 Encourage the production of housing in Santa Fe Springs through offering density bonus and other financial incentives, with particular emphasis on housing affordable to lower income households, as well as the needs of the handicapped, the elderly, large families, female-headed households, and the homeless.
- 2.3 Continue to provide for flexibility in the density and mix of land uses through the Planned Development overlay, and encourage the development of higher density, affordable housing in this zone.
- 2.4 Assist residential developers in identifying and preparing land suitable for new housing development. Maintain an up-to-date inventory of suitable residential sites.
- 2.5 Avoid the concentration of housing for low income families in specific areas of the City, and encourage an appropriate mix of housing types.
- 2.6 Encourage the development of residential units which are accessible to handicapped persons or are adaptable for conversion to residential use by handicapped persons.
- 2.7 Locate higher density residential development in close proximity to community commercial facilities, public transportation, services and recreation. Such housing should be designed in accordance with planned development regulations to ensure compatibility with surrounding developments.

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- 2.8 Coordinate with social service providers to address the needs of the City's homeless population. Continue to encourage the development of transitional and emergency housing in areas with a Planned Development (PD) overlay through flexibility in development standards.
- 2.9 Periodically review the Land Use Element to determine if, in light of changing conditions, there are additional areas which could be appropriately used for housing.
- 2.10 Continue to offer neighborhood housing counseling services through the Santa Fe Springs Center for Social Services on matters such as review of leases, fair housing, and landlord-tenant disputes.
- 3.1 Assist in the development of affordable housing ownership for Moderate, and where feasible, Low income residents.
- 3.2 To the extent funding is available, provide favorable home purchasing options to low-and moderate-income households, such as interest rate write-downs, down payment assistance, mortgage credits, and mortgage revenue bond financing.
- 3.3 Encourage alternative forms of home ownership, such as shared equity ownership and limited equity cooperatives.

*Additional Mitigation Measures Required:* None.

*Level of Significance After Mitigation:* Less than significant.

### 4.9 Biological Resources

This analysis of biological resources is based on a windshield survey of the open space areas of the City of Santa Fe Springs following a review of the California Department of Fish and Game's Natural Diversity Data Base, a computer data base that lists localities of sensitive species and habitats that currently exist or existed at some time in the past. Summaries for the Baldwin Park, El Monte, La Habra, and Whittier USGS 7.5 minute quads were consulted. These element reports provide a background source for species of concern in the region. Species of concern, also known as sensitive biological resources, include: (1) species given special recognition by federal, state, or local resource conservation agencies and organizations due to declining, limited, or threatened populations, resulting in most cases from habitat reduction; and (2) habitat areas that are unique, of relatively limited distribution, or of special value to wildlife.



### 4.9.1 Environmental Setting

The City of Santa Fe Springs is an urbanized city in central Los Angeles County, and is surrounded by other urbanized cities. The wildlife found in the study area are common urban wildlife and consist of species that are tolerant of human disturbance and maintain populations in urban and suburban environments. Common urban wildlife found elsewhere in the study area include the mourning dove (*Zenaida macroura*), black phoebe (*Sayornia nigricans*), house finch (*Carpodacus mexicanus*), northern mockingbird (*Mimus polyglottus*), house sparrow (*Passer domesticus*), and lesser goldfinch (*Carduelis psaltria*), western fence lizard (*Sceloporus occidentalis*), various mice (*Mus musculus* and *Peromyscus maniculatus*), coyote (*Canis latrans*), beechey ground squirrel (*Spermophilus beecheyi*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*).

No regionally or locally important biological resources were observed during the brief field survey of the study area. The majority of undeveloped lands in the study area are located in oil field areas. A brief field survey of these Areas shows that they are vacant lots with disturbed (ruderal) plant communities and sparse non-native annual grassland. Small, isolated patches of riparian scrub comprised of mulefat (*Baccharis glutinosa*), coyote bush (*Baccharis pilularis*), and willows (*Salix goodingii*) were found in several areas. The remaining open space areas identified in the Open Space Element of the General Plan Update are local parks and ballfields, which provide habitat for urban wildlife.

#### A. Wildlife Movement Corridors

Wildlife movement corridors are linkages between two or more habitat patches. They can serve as habitat and as travel lanes for seasonal movements of wildlife. Their value depends upon width, habitat type and structure, nature of surrounding habitat, human use patterns, and other factors. Typically, a wildlife corridor provides refuge and ease of movement, and often follows ridgelines or drainages. Wildlife movement corridors are important for the free movement of animals between populations, for access to food and water sources during drought, as escape routes from brush fires, and, in the longer term, for dispersal of genetic traits between populations.

The San Gabriel River historically functioned as an important wildlife movement corridor. However, with the channelization of the River and urbanization of the region, including Santa Fe Springs, its utility as a movement corridor has been reduced.

#### B. Species and Communities of Special Concern

The California Department of Fish and Game's Natural Diversity Data Base (DFG, 1994) data base reports 3 plant and 6 animal species of special concern from the region of the study area. Various sensitive species historically occurred along the San Gabriel River in the vicinity of the

study area, but habitat for them no longer occurs in Santa Fe Springs. These include the least Bell's vireo (*Vireo bellii pusillus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern pond turtle (*Clemmys marmorata pallida*), San Diego coast horned lizard (*Phrynosoma coronatum blainvillei*), etc. The California gnatcatcher (*Polioptila californica*) and the coastal cactus wren (*Campylorhynchus brunneicapillus sandiegoense*) are found in the west Coyote Hills area of Fullerton southeast of the study area. These species have not been reported from the study area in the recent past and suitable habitat for them no longer occurs in the study area or its vicinity. The following plant sensitive species were reported by the Natural Diversity Database as occurring in the project region, but which are not expected to occur in the study area: Two plant species that are being considered for listing as Threatened or Endangered by the US Fish and Wildlife Service were reported from the project region. The Los Angeles sunflower (*Helianthus nuttallii parishii*) and Parish's gooseberry (*Ribes divaricatum* var. *parishii*) which may occur north of the study area in the Whittier Narrows, and the many-stemmed dudleya (*Dudleya multicaulis*), which was reported from the Puente Hills northeast of the study area. None of these species are expected to occur in the disturbed and developed areas that dominate the Santa Fe Springs study area.

### 4.9.2 Environmental Impacts and Mitigation Measures

**IMPACT:**     **LOSS OF WILDLIFE HABITAT AND ASSOCIATED PLANT AND ANIMAL SPECIES WOULD OCCUR WITHIN THE STUDY AREA.**

**Impact Analysis:** Implementation of the General Plan would result in the incremental removal of remaining plant communities in the study area and the plant and animal species that are found there. Mobile animals such as birds and larger mammals such as the coyote would be displaced to appropriate habitat south of the project site. Some of the animals that move to appropriate habitat south of the project site would be subject to mortality by predation and unsuccessful competition for food and territory. Sedentary species such as burrowing small mammals (pocket gophers) and lizards would be eliminated by site preparation. All or most of the native species of snakes, lizards, and mammals would not be expected to recolonize the developed site. A minority of birds can be expected to recolonize. Many of the bird species found in and around the project site, such as the mourning dove, black phoebe, house finch, and house sparrow, are tolerant of human disturbance and can be expected to forage and/or nest on the developed project site. The reduction or loss of prey species such as lizards and rodents would incrementally reduce the amount of foraging habitat for raptorial birds such as the red-tailed hawk. Because of the developed condition of the majority of the study area and the disturbed condition of the undeveloped oil fields and the small amount of habitat found there, the loss of the site's biological resources is not considered significant.

**Policies Included in General Plan:** The Conservation Element of the General Plan contains the following policies intended to preserve the City's natural resources.



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- 1.1 Continue to develop new and expand existing programs that increase the public's interest, awareness and participation in environmental and conservation issues.
- 1.2 Continue to enforce the guidelines as set forth in the Master Street Tree Plan Report.

### ***Additional Mitigation Measures Required:***

- 4.9-1 Development proposals within the vacant areas of the 227-acre Special Study Area I, the 91-acre Special Study Area II, and the 261-acre Golden West Refinery shall include biological assessments.

***Level of Significance After Mitigation:*** Less than significant

### ***IMPACT: LOSS OF RIPARIAN HABITATS***

***Impact Analysis:*** Implementation of the General Plan would impact several small areas of mulefat riparian scrub, which are considered a sensitive habitat. The removal of riparian vegetation is subject to jurisdiction under Section 1603 of the California Fish and Game code. Also, any dredge or fill activity in a drainage is subject to the jurisdiction of the Army Corps of Engineers pursuant to Section 404 of the Clean Water Act. The conditions of the 1603 and 404 permits require habitat replacement that mitigate impacts to riparian communities.

***Policies Included in General Plan:*** None specifically related to riparian habitats.

### ***Additional Mitigation Measures Required:***

- 4.9-2 Prior to any impact on riparian vegetation or blue-line streams designated on the USGS 7.5 minute topographic map, the Department of Fish and Game will be consulted to determine if a 1601/1603 permit will be required and appropriate actions will be taken to comply with conditions as necessary.

***Level of Significance After Mitigation:*** Less than significant

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### **4.10 Cultural Resources**

#### **4.10.1 Environmental Setting**

##### **A. History**

The history of Santa Fe Springs is described in *Santa Fe Springs: A Pictorial History*, by Marilyn Jensen. Over 200 years ago the area became part of the Santa Gertrudes Rancho through a land grant by the San Gabriel Mission to a Spanish soldier. Throughout the next century, the area became a vast cattle empire, with herds of horses and a vast array of agricultural products to meet the needs of the Indians and caballeros inhabiting adobes in the area.

The area remained a quiet farming community, settled by pioneers, until 1874 when Dr. H.E. Fulton formed the Fulton Sulphur Springs and Health Resort to utilize the sulphur springs he had discovered on his property. In 1886, the Santa Fe Railroad purchased land from Fulton to run a railroad line from Los Angeles to San Diego. The railroad laid out the first townsite and offered lots for sale. However, few were sold due to the recession. The Santa Fe Railroad opened in 1888, signaling a new era - a transcontinental market for farm products and faster, safer travel. New enlarged ranch buildings began to spring up with exotic gardens taking the place of the adobe. From the turn of the century to World War I, Santa Fe Springs remained a close-knit agricultural community.

In 1921, the first oil well was completed, initiating the oil boom in Santa Fe Springs. By 1923, new discoveries made the Santa Fe Springs area the state's largest producer of oil. Farmers who had struggled to feed their families were suddenly millionaires and, in a matter of years, this new land use forever changed the community of Santa Fe Springs. Although the oil boom was over by the 1960s, its benefits were long lasting. The discovery of oil spawned industries needed to provide services and repair for drilling equipment such as machinists, tool makers, and blacksmiths.

After World War II, industrialists were beginning to realize that the location of Santa Fe Springs, midway between Los Angeles and Orange County, made it a prime prospect for new business that would be well served by the existing Santa Fe and Southern Pacific Railroads as well as the two major freeways, the Santa Ana and the proposed San Gabriel. Santa Fe Springs had become a residential suburb with a thriving industrial center. In 1957, Santa Fe Springs officially became a city.

##### **B. Records Search**

A records search was conducted for the City of Santa Fe Springs by the Archaeological Information Center at the UCLA Institute of Archaeology. This search included a review of all recorded historic and prehistoric archaeological sites within the City as well as a review of all



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known cultural resource survey and excavation reports. Nine surveys and/or excavations have been conducted within, or immediately adjacent to, the City. In addition, historic maps, the National Register of Historic Places, the Directory of Properties in the Historic Property Data File, and the listing of California Historical Landmarks in the region were consulted. Due to the sensitive nature of cultural resources, archaeological site locations were not released.

Inspection of historic maps, Downey (1896 and 1943) 15' series, indicates that as of the 1896 map edition there was the town of Santa Fe Springs, which included numerous roads and isolated structures and the tracks of the Atchison Topeka and Santa Fe Railroad. In addition, wetland environments were present within the area, including streams, marshes and ponds. The 1943 map depicts considerable development, including primary, secondary and dirt roads, numerous landmark structures and numerous oil wells within the City.

### **C. Prehistoric Resources**

One prehistoric archaeological site, CA-LAN-182, was identified within the City. This site was recorded in 1950 and is described as "an historic Gabrielino village"; however, the author of the site record is unknown. In addition, the site record lists three possible locations for this site, only two of which are within the City of Santa Fe Springs.

### **D. Historic Resources**

One historic archaeological site, CA-LAN-1016H, consisting of two loci, has been identified within the subject area at 12100 Telegraph Road. This site is listed on the National Register of Historic Places (12/31/87; 82004982) and the Directory of Properties in the Historic Property Data File. The site was recorded in 1979 by V.G. Bente and R.G. Hatheway. Locus A, the Patricio Ontiveros Adobe, was a Mexican period adobe, which was "possibly constructed ca 1800-1815, associated with the Los Nietos Landgrant" and is described as an,

Adobe foundation constructed of sandstone cobbles. Area was later utilized for the construction of a carriage house with brick foundation [locus B]. Pottery shards suggest the presence of historic Gabrielino.

Locus B, the Hawkins-Nimocks Estate is described as:

Various buildings, structural and landscape features. The main house and barn, which were originally built about 1880, have been destroyed by a fire. Examples of the garden sculpture, several buildings, and portions of the once extensive water system remain.

The National Register of Historic Places also lists the Clarke Estate (1/04/90; 89002267) at 10211 Pioneer Boulevard. The Clarke Estate was built as the home of Chauncey and Marie Rankin Clarke in 1919. A wealthy, socially prominent couple, they hired architect Irving Gill to build

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their country home on 60 acres of citrus groves in Santa Fe Springs. Gill built this house in an unusual style for the era, using the feeling of Mediterranean and Mission Revival architecture, devoid of ornamentation. Completed in 1921, the 8,000-square-foot home is constructed of poured-in-place concrete. The recent restoration by the City of Santa Fe Springs includes improvements in the mechanical systems, landscaping and interior decoration.

In addition to the Hawkins-Nimocks Estate-Patricio Ontiveros Adobe and the Clarke Estate, the Directory of Properties in the Historic Property Data File (1993) also lists four other properties:

- 9615 Bartley Avenue (constructed 1940);
- 9122 Millegrove Dr, residence;
- 9333 Millegrove Dr, residence;
- 10135 Painter Ave, German Baptist Church (constructed 1894);

The listings of the California Historical Landmarks (1990) of the Office of Historic Preservation, California Department of Parks and Recreation, indicate that there are no California Historical Landmarks within the City of Santa Fe Springs.

### **4.10.2 Environmental Impacts and Mitigation Measures**

#### ***IMPACT: POTENTIAL FOR DAMAGE OR LOSS OF HISTORIC BUILDINGS AND SITES DUE TO INCREASED DEVELOPMENT***

**Impact Analysis:** A number of historic resources have been identified within the City of Santa Fe Springs. Due to the highly developed nature of the City, and the focus on developing largely vacant, former oil fields and oil refineries, it is unlikely that these buildings and sites will be affected by additional development occurring under the General Plan. City programs such as the Heritage Artwork in Public Places Program (described in greater detail in Section 4.6) create an awareness and appreciation of the City's history and an understanding of the need to protect historic resources.

**Policies Included in the General Plan:** The Land Use Element of the General Plan includes the following policies that support enhancement, protection and awareness of cultural resources in the City:

- 20.1 Provide the community with the opportunities to appreciate the City's significant history through historical exhibits, the preservation of Heritage Park, and the Clarke Estate.
- 20.2 Administer historical, cultural and recreational programs within the community and provide opportunities for family oriented events.

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- 20.3 Operate and promote the Heritage Artwork in Public Places Program as a means of enhancing the urban environment and creating a stimulus for constructive behavior and thought.
- 20.4 Provide visual and performing arts opportunities for young people to the extent allowable through the Heritage Art Fund in order to help them actualize a full range of potential skills and interests.

The Open Space/Conservation Element of the General Plan also includes policies regarding cultural resources:

- 4.1 Ensure that any future additions to the [Heritage Artwork in Public Places] program are appropriate, of superior quality, placed in unrestrictive settings, and highly selective.
- 4.2 Expand on the children's educational programs that highlight the visual and performing arts.
- 4.3 Consider the development of a multicultural museum and center.

### ***Additional Mitigation Measures Required:***

- 4.10-1 Prior to development, buildings or structures in excess of 45 years of age should be evaluated against criteria for inclusion in the National Register of Historic Places.
- 4.10-2 Projects should be reviewed by the Archaeological Information Center during the Initial Study Phase of the planning process so that the potential for yielding cultural resources can be evaluated and recommendations for treatment can be made for the proposed area of development.
- 4.10-3 Properties listed in the Directory of Properties in the Historic Property Data File should be protected from damage or destruction.

***Level of Significance After Mitigation:*** Less than significant.

### ***IMPACT: POTENTIAL FOR DAMAGE TO SUBSURFACE OR UNKNOWN HISTORIC OR PREHISTORIC RESOURCES***

***Impact Analysis:*** Development permitted under the Plan could result in the destruction or damage of unknown or subsurface prehistoric or historic resources. Pursuant to the CEQA



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Guidelines requirements regarding cultural resources, the damage or loss of a prehistoric or historic archaeological site is considered a potentially significant impact.

Native American artifacts are further protected by Section 7050.5 of the California Health and Safety Code, which mandates that excavation be halted whenever Native American human remains are discovered in any location other than a dedicated cemetery. The legislation also provides for the participation of The Native American Heritage Commission and any known descendants in the disposition of the remains, and prohibits the removal or possession of Native American artifacts or human remains from a Native American grave.

*Policies Included in the General Plan:* None.

### *Additional Mitigation Measures Required:*

- 4.10-4 For any project with a potential impact, a records search shall be conducted by a qualified archaeologist through the Archaeological Information Center. This office is authorized by the State Historic Preservation Officer to make recommendations regarding the degree of evaluation to be required. Adequate evaluation ranges from a halt-word condition being applied to the permit to evaluation of resource significance through test excavations. The Information Center will provide project specific information of previous surveys and of recorded sites within or immediately adjacent to a project area.

*Level of Significance After Mitigation:* Less than significant.

## **4.11 Public Health and Safety**

### **4.11.1 Environmental Setting**

#### **A. Hazardous Materials**

Hazardous materials can pose a threat to public health and cause pollution of land, water, and air through inadequate and uncontrolled handling and disposal or illegal dumping of wastes (see Table 41). A number of federal, state and local laws and regulations exist that address current management needs. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA) of 1986 govern the clean-up of listed hazardous waste sites. The Resource Conservation and Recovery Act (RCRA) and the California Hazardous Waste Control Law (HWCL) regulate businesses that generate, transport, treat and dispose of hazardous wastes.

The State of California defines a hazardous material as a substance that is toxic, ignitable or flammable, or reactive and/or corrosive.



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During the years 1987-1991, approximately 79 reported significant hazardous materials incidents occurred with the City of Santa Fe Springs<sup>34</sup>. Table 4.11A shows the chemicals that have been released.

The main causes of the incidents are equipment failure, illegal dumping, operator error, natural phenomenon and transportation. Seventy-four (74) percent of these incidents occurred at fixed facilities, 14% occurred due to pipeline ruptures, 6% occurred due to transportation accidents and six percent due to other causes. The incidents polluted the air, land, sewer system, stormwater system, rivers, creeks and the Los Angeles, Long Beach and Santa Monica Harbors.

Spills resulting in soil contamination only can easily be contained and, in recent years, are usually cleaned up. However, air releases during hazardous materials incidents pose long-ranging threats to the health and safety of humans and animals. When wind speeds are low, contaminated vapor clouds can travel long distances and cannot be controlled, except at the source. Inhalation of the contaminated vapor can cause severe acute health effects.

Spills into the waterways pose long-ranging threats to the environment. Spills entering the sewer system flow through the Hyperion Treatment plant and then into Santa Monica Bay. Small spills can be treated at the plant. Large spills upset the treatment process and result in the spillage of the chemicals and other untreated sewage into the harbors.

**TABLE 41  
CHEMICALS AND THEIR IMPACTS**

Chemical	Impact
Acetone	
Ammonia	Stormdrain
Asbestos	
Benzene	Air
Boron Trychloride	Air
Bunker Fuel	Long Beach Harbor/Pacific Ocean
Capacitor Oil (50% PCB)	Land
Chlorine	Air
Chromium	Air

<sup>34</sup> Emergency Response Notification System (ERNS), Vista Environmental Database Search, December, 1992.

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**TABLE 41  
CHEMICALS AND THEIR IMPACTS**

Chemical	Impact
Crude Oil/Brine Water	Dry Drainage Ditch, Stormdrain, San Gabriel River, Groundwater, Coyote Creek, Los Angeles Harbor, Land
Cutting Oil	Long Beach Harbor/ Pacific Ocean
Epoxy Degreaser	Flood System, Land
Diesel	Stormdrain, Flood Control Channel, Land
Dimethylamine	Land
Gasoline	Stormdrain, Land
Hydraulic Oil	Santa Monica Harbor
Hydrochloric Acid	Los Angeles Flood Control Channel, Milan Creek, Coyote Creek, Sorenson Channel, Sewer, Land, Air
Hydrofluoric acid	Air, Land
Liquid Nitrogen Sulphide	Land
MACDERMID UE20 NA1719	Land
Methanol	Land
Muriatic Acid	Groundwater, Sewer
Nickel	Air
Nitric Acid	Sewer
Nitric Oxide	Sewer, Air
Oil	Flood Control Channel, Coyote Creek, Land
Potassium Cyanide	Land
Propane	Air
Salt Water	Stormdrain, Coyote Creek
Selenium	Air
Sewage	Land
Slurry Water	Stormdrain
Sodium Bisulfite	Land
Sulphur Trioxide	Air

**TABLE 41  
CHEMICALS AND THEIR IMPACTS**

Chemical	Impact
Sulfuric Acid	Groundwater, Sewer
Transformer Oil (PCB)	Land
Vegetable Oil	Stormdrain, Land

Surface spills either flow directly into the storm drainage system or are washed into the system with the next rain. Unlike spills into the sewer system, spills into the storm water system flow untreated into creeks, rivers, the flood control system and ultimately three different harbors, Santa Monica, Los Angeles and Long Beach, and the Pacific Ocean. These spills are not likely to directly injure humans, unless humans are in the waterways when the spill flows through. However, the contaminated water percolates into the groundwater resulting in contamination of the drinking water supply, and can damage sensitive riparian flora and fauna in its path.

The government recently passed amendments to the Clean Water Act to address general impacts from urban runoff into the stormwater system and specific impacts from industrial spills. As a result, the Los Angeles County Public Works Department has obtained a countywide National Pollution Discharge Elimination System (NPDES) permit. However, while the county operates the system, the cities are responsible for keeping contamination out of the system.

### 1. Contaminated Properties

The oil field and chemical production industry history of Santa Fe Springs has led to a significant number of contaminated properties. Soils contamination is a major factor in the development of most remaining undeveloped land within the City.

The Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) is a database of contaminated properties under the Federal Superfund Program maintained by the U.S. EPA. Forty-six sites within the City of Santa Fe Springs have been placed on this list. One site, Waste Disposal Inc., 12731 Los Nietos Road, is on the Federal Superfund Cleanup list. Two sites are on the State Superfund Cleanup List, McKesson Chemical at 9005 Sorensen Avenue and Neville Chemical at 12800 East Imperial Highway.

Figure 36 shows the locations of contaminated sites.



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### **2. Abandoned Landfills**

Abandoned landfills are primarily a concern because of the potential for accumulation of methane gas. Shallow accumulations of methane gas pose a potential fire hazard to related or adjacent land uses. Methane zones in the City are described in greater detail below.

One site, Waste Disposal Inc. located at 12731 E. Los Nietos Road, is on the National Priorities List (Superfund) of uncontrolled or abandoned hazardous waste sites identified for remedial actions under the Superfund program. It contains commercial and industrial wastes, including hazardous wastes. Primary contaminants are oils and solvents.

Landfills containing organic materials produce methane gas and dioxin during the degradation process. The gases can migrate through the soil for considerable distances and can impact the community. Special measures, such as gas flaring, may be necessary to protect surrounding land uses. Landfills containing hazardous materials present an even greater potential risk to the community. The methane gas can pick up hazardous chemical constituents and can transport them off-site. Contaminated leachate commonly percolates into the groundwater, creating a plume that can migrate downgradient for long distances. Even household hazardous waste in a municipal landfill can impact the groundwater.

### **3. Methane Sites**

The City of Santa Fe Springs contains areas of hazardous accumulations of methane gas. In 1985, the "Roberti Study" was prepared by Geoscience Analytical to determine the extent of the natural gas seepage problem in the City of Santa Fe Springs. Geoscience Analytical, Inc. sampled 110 sites by both probe and/or coring methods. About 50 percent of the sampled locations contained soils charged with explosive levels of gas. In 1989, the City of Santa Fe Springs Fire Department listed areas of elevated levels of methane gas. The list includes either areas discovered by the State Roberti Gas Study, routine monitoring by the Southern California Gas Company or by other gas studies. The complete list is available at the Fire Department Headquarters. In order to regulate development in these areas, the City has designated five methane management zones as shown on Figure 37.

In its pure form, gas is colorless and almost odorless. Although it is non-toxic, it is highly explosive in concentrations of 5 percent to 15 percent, or 50,000 to 150,000 parts per million. It also acts as a asphyxiant, excluding oxygen from the lungs. Hydrogen sulphide often accompanies methane gas and causes the "rotten egg" smell and is highly toxic.

Methane gas is associated with the decomposition of organic materials. Petrogenic gas originates along with oil from the decomposition of deeply buried organic matter in the marine and lacustrine sediments of the earth's crust. Once the oil and gas is formed in a three-stage process, they migrate through the sand and shale and collects in reservoirs. Biogenic methane is produced







# EPA CONTAMINATED SITE LOCATIONS

The Planning Center

Santa Fe Springs General Plan Update Environmental Impact Report  
Figure 36





MAP NO.	COMPANY NAME	ADDRESS
1	McKesson Chemical Company	11600 Pike Street
2	Liquid Air Corporation	8832 Dice Road
3	West Bent Bolt	8623 South Dice Road
4	Fine Line paint Corporation	12200 Los Nietos Road
5	Pilot Chemical Corporation	11756 Burke Street
6	Cal Western Paint Corporation	11748 Slauson Avenue
7 *	Neville Chemical Corporation	12800 East Imperial Highway
8	Life Paint Company	12911 Sunshine Avenue
9	Powerine Oil Company	12354 Lakeland Road
10	Sonic Plating Company, Inc.	13002 Los Nietos Road
11	Whittier Plating Company, Inc.	11642 East Pike Street
12	Standard Precision, Inc.	12311 South Shoemaker Avenue
13	Mobil Oil Corp. Chanslor Div.	10737 South Shoemaker Avenue
14	The Plate Shop	10701 Forest Street
15	Brown Pacific Wire	13639 Bora Place
16	Ashland Chemical Company	19505 South painter Avenue
17	Diversey Wyandotte Corporation	8921 Dice Road
18	California Industrial Products, Inc.	11525 Shoemaker Avenue
19	Golden West Refining Company	13539 East Foster Road
20	Sinclair & Valentine	14930 Marquardt Avenue
21 *	Foremost McKesson, Inc.	9005 Sorensen Avenue
22	PGP Industries, Inc.	13429 Alondra Boulevard
23	GMC Warehouse & Distributing	14141 Alondra Boulevard
24	United States Printing Ink Corp.	13710 Borate Street
25	Hillerich & Bradsby Company	15601 Resin Place
26	Norwalk Dump	13780 E. Imperial Highway
27	Los Nietos Dump	Los Nietos Road & Painter Avenue
28	Marathon Cartage	13710 Imperial Highway
29	General Disposal Company	12605 South Marquardt Avenue
30	Stankevich #2 Santa Fe Springs	12601 South Bloomfield Ave.
31 *	Waste Disposal, Inc.	12731 East Los Nietos Road
32	Dice Rd. & Los Nietos Rd. Dump	9165 Dice Road
33	Bell Petroleum	12250 East Bell Ranch Road
34	Los Angeles By-Products	9615 South Norwalk Boulevard
35	Western Screw Products	11770 - 11780 Slauson Boulevard
36	Shamrock Tire & Chrome	10332 South Norwalk Boulevard
37	Kobra, Inc.	12027 Greenstone Avenue
38	Hughes Aircraft Company	14501 Valley View Boulevard
39	Kalico LDFL #1	11801 Greenstone Avenue
40	Kalico LDFL #2	Imperial Highway at Shoemaker Avenue
41	Sur-Lite Corporation	8124 Allport Avenue
42	Burdett Oxygen Company of CA #1	8838 South Dice Road
43	Santa Fe Springs Wastewater Disposal	9814 South Albutis Avenue
44	Cox Wardman Oil Field	12300 Telegraph Road
45	Magma Corporation	11608 South Bloomfield Avenue
46	Electro-Cal Plating Company	12831 Marquardt Avenue
47	Southern California Chemical	8851 Dice Road

(\* Denotes Superfund Sites)

## LEGEND FOR FIGURE 36







## 4 ENVIRONMENTAL IMPACT ANALYSIS

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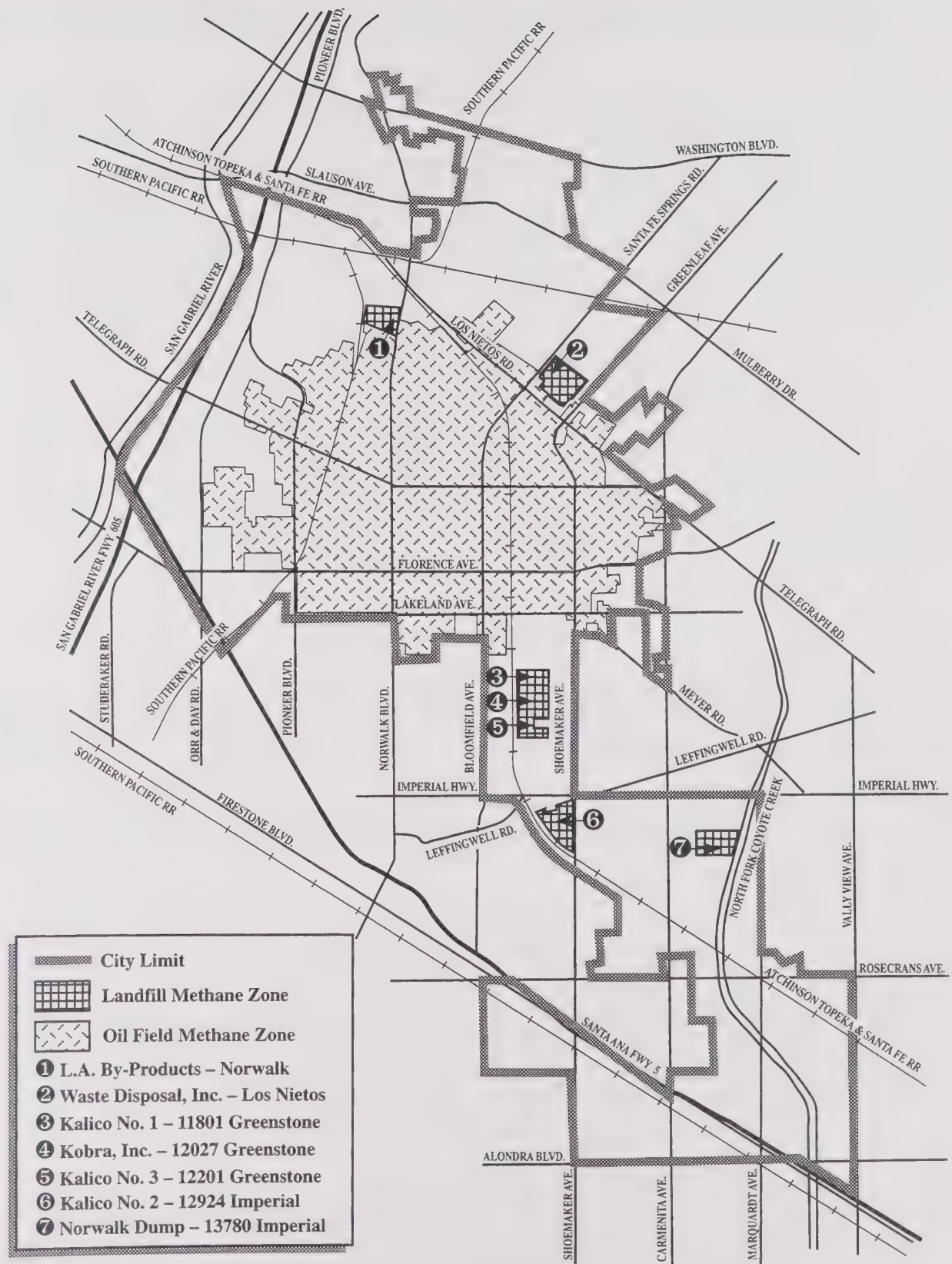
near the surface or in sediment depths of 400 feet or more in a variety of ways, such as the decomposition of current or former wetlands. When the organic matter decomposes, methane is vented over a large area. Biogenic methane is also produced by human processes. Landfills produce methane when organic material, including ordinary household garbage, decomposes. Sewers can also produce significant amounts of methane.

The Roberti Study found that methane gas in the City of Santa Fe Springs was both biogenic and petrogenic in origin. The petrogenic gases were generally associated with the still-producing oil fields between Bloomfield and Norwalk Boulevards on both sides of Telegraph. The other sites that contained petroleum-related gases were quite close to this area. In many cases the high soil gas concentrations were close to and beneath the surface, concentrations were much lower. One possible explanation for this unusual behavior is that oil spills in the past were buried. There may be a foot or so of soil that is oil soaked, which has trapped gases in it. Beneath this oil soaked layer, soil gas concentrations could be much lower. If this is the case, extensive removal of heavily contaminated soils will be required if it is decided to develop the remaining oil fields. This analysis also applies to the Powerine Refinery area which contained high soil gas concentrations of hydrocarbons.

The biogenic gases were found outside the producing area, in many cases associated with lawns or other planting areas such as flower beds or trees in both commercial and residential areas. According to the study, the biogenic gases may be partly the result of the heavy watering and fertilizing of lawns and other plantings which provide particularly favorable locations in which methane producing organisms can flourish. The total amount of such gases was expected to be small. Biogenic gases are also associated with the four landfills in the City.

Only four of the sites identified as biogenic contained soil gases with hazardous hydrocarbon concentrations and they were not in developed areas. One was in a producing field south of Telegraph and the other three were in one large weed grown plot of land between Norwalk Boulevard and Bell Ranch Drive just south of the trucking docks. The field shows evidence of disturbance through grading and dumping in the past. These hazardous sites could be the result of bacterial decay of buried organic matter as in a landfill.

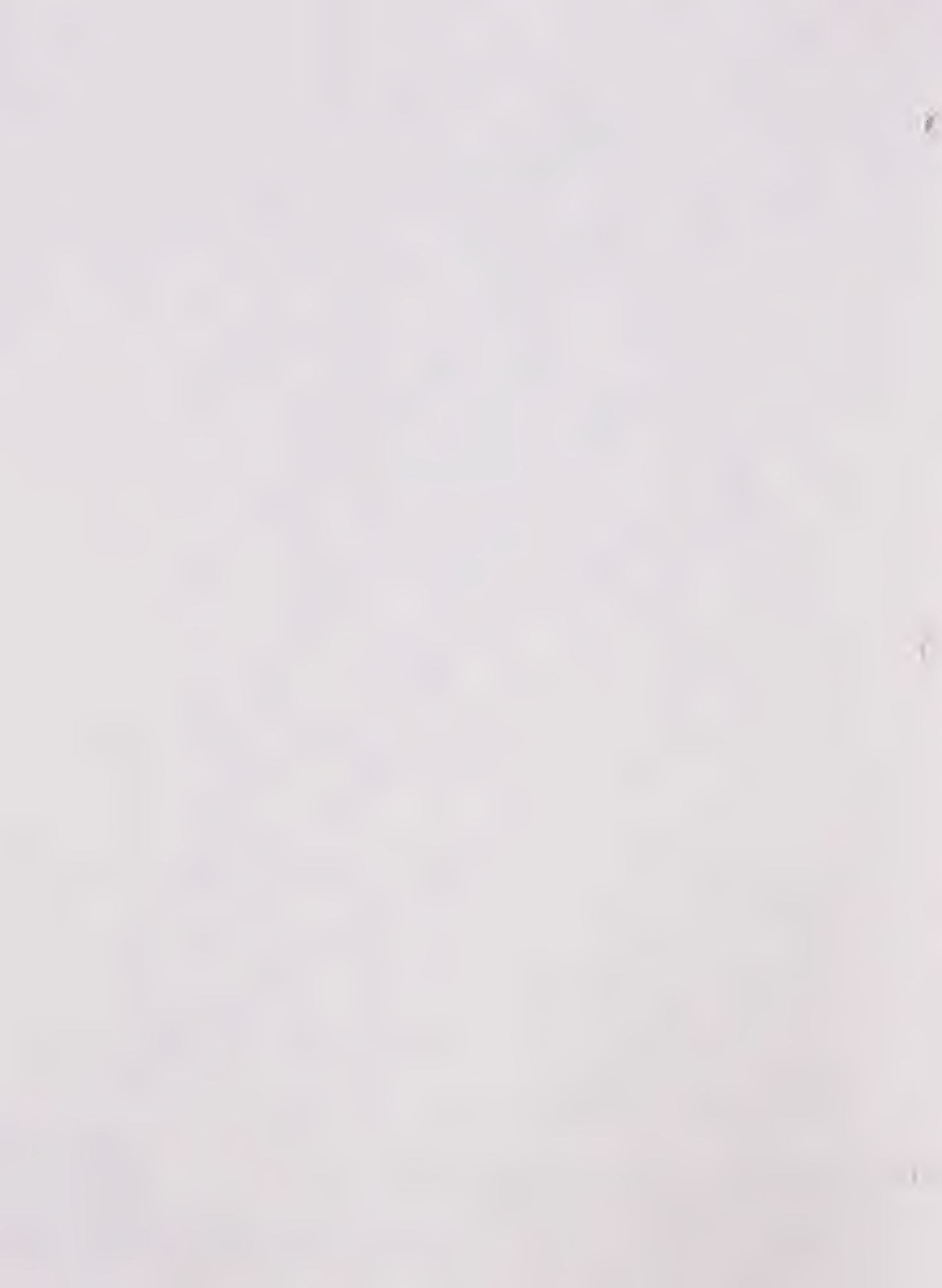




# URBAN FIRE RISKS - METHANE ZONE MAP (LANDFILL AND OIL FIELDS)







Methane can migrate vertically through fine-grained sediments. Whenever possible, though, it will migrate along fault traces, fractures, bedding planes, unconformities, sheet sands and other large pore openings. Methane gas will also utilize abandoned wells as vertical conduits. It may also migrate horizontally under foundations or pavement until it finds an opening such as a crack or hole. When methane vents evenly over a large surface, it remains in low concentrations. However, when it is constricted by an impermeable layer or finds a conduit such as a well, it vents at higher concentrations. When the gas reaches the surface, it can present an explosion hazard if an ignition source is present.

An urban methane leakage hazard can be created by the following when:

- Structures are constructed over oil wells;
- Oil fields are abandoned. When drilling stops, oil field gases are no longer vented. They build up within the field and may escape at higher concentrations using the operating or abandoned well casings as a transport route. When oil fields are redeveloped with urban uses, a potential hazard is created.
- Large areas of impervious surfaces are constructed.

Since mostly biogenic non-hazardous sampling results were found in the residential areas, Geoscience does not recommend any mitigation action for these areas. The Roberti Study identifies several regional and local strategies for methane management in other areas.

The Fire Department requires methane detection systems in all methane management zones and recommends the construction of impermeable barriers under all new structures.

#### 4. Handlers and Generators

An indication of the number of facilities handling hazardous materials is shown by the RCRA facilities list. The City of Santa Fe Springs has 372 registered hazardous waste generators, including a wide variety of light and heavy industrial facilities, medical laboratories, educational facilities and commercial businesses. It should be emphasized that the identified sites have not violated, but rather are complying with, hazardous waste laws and regulations. In fact, most of the sites are businesses that play a necessary role in the economic vitality of the City. The locations of major generators of hazardous materials are shown in Figure 38.

A large variety of industrial and commercial facilities in the City of Santa Fe Springs handle hazardous materials as part of their operation and therefore may potentially contaminate the air, soil and groundwater. Common sources of soil and groundwater contamination from facilities include leaking underground storage tanks, clarifiers, drum storage areas, processing pipes,

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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sumps, old transformers and hydraulic elevators. Most also generate small or large quantities of hazardous waste.

Approximately 600 facilities manufacture, warehouse or process hazardous materials and/or generate hazardous waste within or close to City boundaries. Seventy-four (74) percent of all hazardous materials incidents reported between 1987-1991 were at fixed facilities in the City. Incidents can occur due to spills, ruptures of pipes, tanks and drums and sudden air releases. These conditions can be caused or exacerbated by fire and/or explosions.

The City of Santa Fe Springs has had a Hazardous Material Disclosure Program in effect since June 9, 1987. Businesses with hazardous materials in quantities equal to or exceeding 55 gallons, 500 pounds or 200 cubic feet at standard conditions or in excess of Threshold Planning Quantities for Acutely Hazardous Materials must file a business plan with the City of Santa Fe Springs Fire Department. The Plan must include emergency contact personnel, inventory reports, a plot plan of the facility, and Business Emergency Plan. Those businesses handling acutely hazardous materials must file an registration form with the Fire Department and may be required to prepare a Risk Management Prevention Plan (RMPP). An inspection program was implemented in 1988 to monitor hazardous materials through the City. Every business in the City is inspected at least once per year.

The City of Santa Fe Springs Fire Department is also administering the new National Pollution Elimination Discharge System permit regulations require the preparation of a Stormwater Pollution Prevention Plan that will minimize the potential for spills contaminating the stormwater drainage system.



# MAJOR HAZARDOUS MATERIALS LOCATION OF GENERATORS/USERS

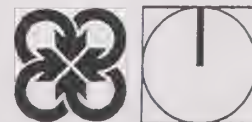






COMPANY NAME	ADDRESS	TYPE OF BUSINESS
1. All Pure Chemicals	11600 Pike	Product Manufacturing
2. Angeles Chemical Co.	8915 Sorensen	Chemical Distributor
3. Arctic Cold Storage	1303 Arctic	Ammonia Refrigeration
4. Ashland Chemical Co.	10505 Painter	Chemical Distributor
5. B.J. Titan Services	11927 Greenstone	Oil Field Services
6. Baker performance	11808 Bloomfield	Mfg. of Oil Field Chemicals
7. Bumble Bee Foods	13100 Arctic	Ammonia Refrigeration
8. Chemcentral	13539 Foster	Chemical Distributors
9. Custom Chemical	8707 Millergrove	Mfg. of Household Chemicals
10. Golden West Refinery	13539 Foster	Petroleum Refinery (Closed)
11. Halliburton	12310 Bloomfield	Oil Field Services
12. Liquid Air Corporation	8832 Dice	Dist. & Mfg. of Compressed Gases
13. P.G.P. Industries	13429 Alondra	Recovery and Refinery
14. Pilot Chemical Company	11756 Burke	Mfg. of Detergents
15. Powerine Oil Refinery	12354 Lakeland	Petroleum Refinery
16. Pressure Vessel	12522 Los Nietos	Chemical Distributor
17. Ralphs Warehouse	12500 Slauson	Ammonia Refrigeration
18. Sika Corporation	12767 Imperial	Mfg. of Construction
19. So. Ca. Chemical	8851 Dice	Chemical Manufacturer
20. T-Chem Products	9028 Dice	Mfg. of Household Cleaners
21. Vons Warehouse	12801 Excelsior	Ammonia Refrigeration
22. Weber Distribution	13530 Rosecrans	Chemical Warehousing
23. Witco	12143 Altamar	Mfg. of Detergents
24. Witco	8733 Dice	Mfg. of Detergents

## LEGEND FOR FIGURE 38





## 4 *ENVIRONMENTAL IMPACT ANALYSIS*

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### 5. Underground Storage Tanks

The City of Santa Fe Springs currently has approximately 720 registered underground storage tanks at 206 sites. These sites range from chemical manufacturing companies, distribution facilities, other manufacturing facilities, fire stations and gas stations. The vast majority of the tanks store gasoline and diesel fuel, oil or solvents. One hundred eight (180) of the sites contain leaking underground storage tanks (LUST). Thirty one (31) percent of these LUSTs have contaminated the soil, 13 percent have contaminated both the soil and groundwater and of the remaining 56 percent of the sites, the status of the soil and groundwater is unknown. No action has been taken by the responsible party on 40 percent of the sites. Thirty-nine (39) percent of the sites are currently being studied and remedial action is underway on seven percent of the sites. The case is closed on 11 percent of the sites (assumably, the sites are clean) and post remedial action monitoring is occurring on three percent of the sites. The locations of known leaking underground tanks are shown in Figure 39.

In the 1980s, the California State Legislature found the storage of hazardous substances and petroleum products were potential sources of contamination of the soil and underlying aquifers, and may pose other dangers to public health and the environment. Based on these and other statewide concerns and mandates, the Legislature established a continuing program for the purpose of preventing contamination from underground storage tanks. Old tanks must eventually be replaced. All new tanks must be double-walled, with an interstitial monitoring device to detect leaks. All soil and groundwater contamination must be cleaned up. The regulations for this program are contained within Chapter 6.7, Division 20 of the Health and Safety Code and Subchapter 16 of Title 23 of the California Code of Regulations- California Underground Storage Tank Regulations and are implemented by the Regional Water Quality Control Board. Although compliance with the existing stringent regulations is expected to prevent future environmental contamination from the routine operation of underground storage tanks, the City of Santa Fe Springs clearly has soil and groundwater contamination from past underground storage practices.

### 6. Pipelines Containing Hazardous Materials

Pipelines can contaminate the environment either suddenly, perhaps due to a rupture during an earthquake or slowly over time, due to pipeline leakage through the joints or small holes in the pipes. Slow releases through pipeline joints or small holes can continue undetected for a long time, resulting in contamination of the groundwater can threaten drinking water supplies.

Largely due to the oil industry, the City of Santa Fe Springs has a number of underground pipelines that transport hazardous materials. These pipelines are generally buried 36 to 48 inches under the surface and range between 3 and 26 inches in diameter. Pipeline locations are shown on Figure 40. The operators are Mobil, UNOCAL, Goldenwest, Southern California Edison, Southern Pacific Pipeline, Powerine Oil, Shell, Chevron and Defense Fuel.



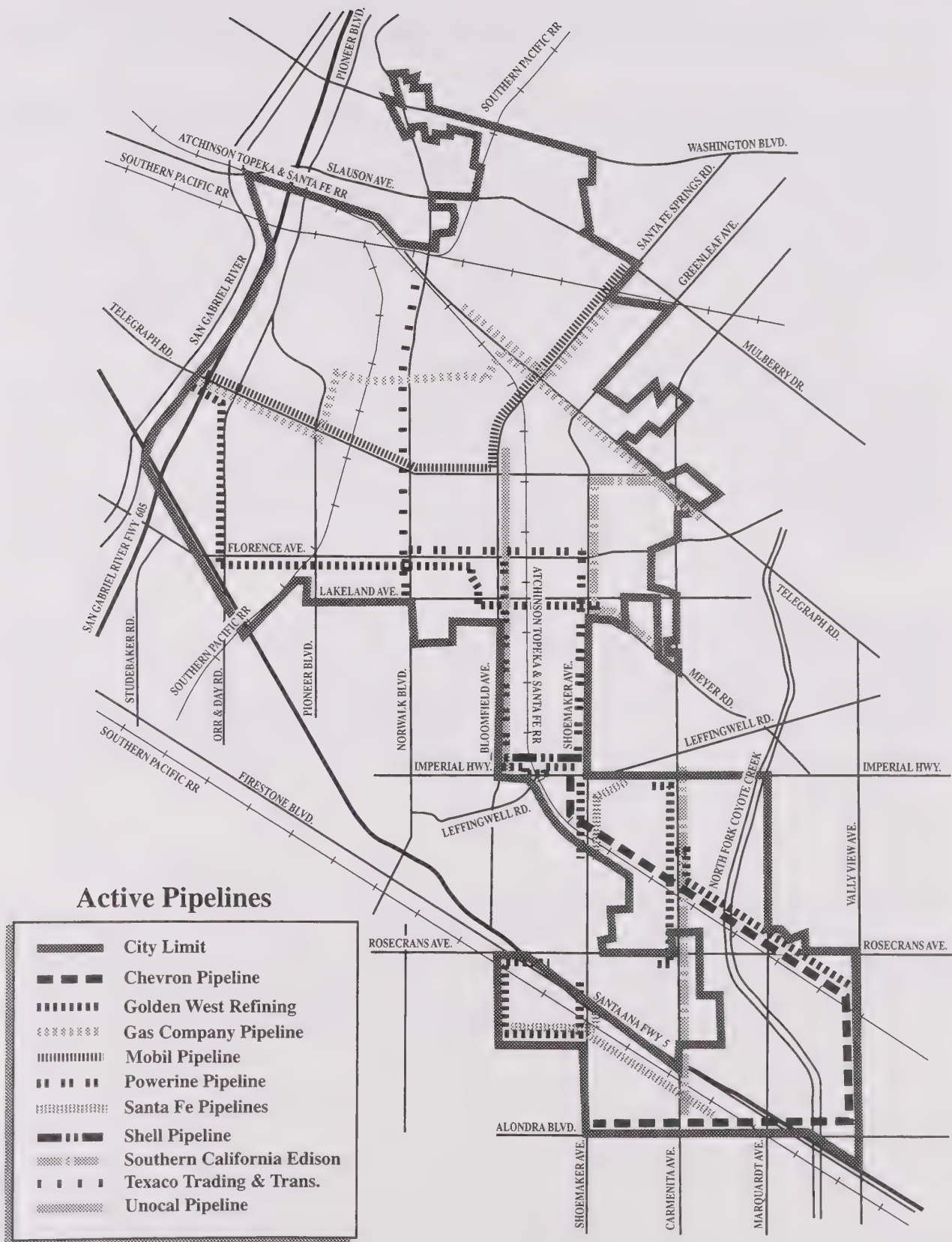




# REPORTED LOCATIONS OF PAST AND PRESENT UNDERGROUND LEAKING TANKS







## URBAN FIRE RISKS - UNDERGROUND PIPELINES







## 4 ENVIRONMENTAL IMPACT ANALYSIS

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Most of the materials are petroleum products, including jet fuel, and are transported under high pressure. The use of most of the pipelines is decreasing, due to the decline in the oil industry. In the years 1987-1991, eleven hazardous materials incidents involving pipelines were reported. Sewage, crude oil, brine water, gasoline and drilling mud were released. Affected mediums were Coyote Creek, flood control channel, air, groundwater and surface and subsurface soil. Sudden releases of large releases of hazardous gases, explosions and fires and are usually detected quickly. Contamination of the air, soil and water often occurs, resulting in a safety hazard to the community and environmental damage.

Two types of planning/regulatory efforts are needed to minimize impacts associated with pipelines. First, the State Fire Marshall sets forth buffering requirements for development on or near pipelines. Construction is prohibited directly over the pipeline. A right-of-way is established based on negotiation between the property owner and the pipeline operator. The width usually ranges between 20-50 feet. Where more than one pipeline exists, shared right-of-ways may span 60-70 feet. There are no restrictions on the types of land uses that can exist over the pipelines. Types of groundcover may be restricted. Specifically, no large trees can be planted over the pipeline.

Secondly, the need for community preparedness is clear. A wide variety of public and private entities, including fire and police service personnel, emergency medical forces, public and private utilities groups, industrial professionals, media units, insurance representatives and various governing bodies, agencies and services may respond to a pipeline incident. All groups must know the materials transported in each pipeline and location and nature of the pipeline system. Based on this knowledge, an integrated emergency preparedness plan can be developed and maintained.

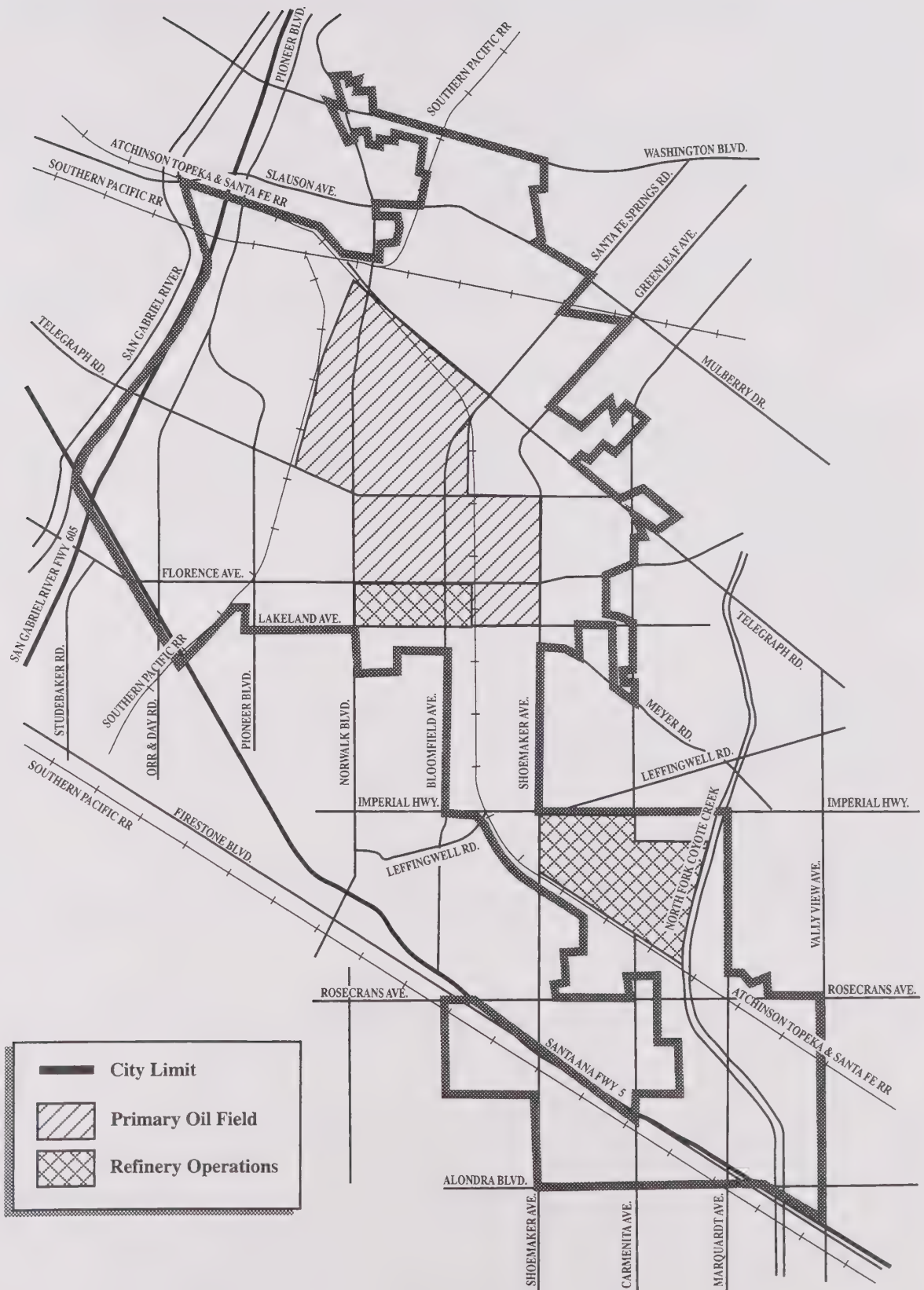
### 7. Oil Production Facilities

The City of Santa Fe Springs is the site of historically abundant oil and gas production. Currently, the field's production is declining and the City of Santa Fe Springs has a very aggressive redevelopment program underway that is bringing in much new commercial and industrial development. Buildings are being constructed near producing wells, encroaching on the field, and natural gas seepage has been reported<sup>35</sup>.

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<sup>35</sup> Department of Conservation, Division of Oil and Gas. *A Study of Abandoned Oil and Gas Wells and Methane and Other Hazardous Gas Accumulations*. Final Report October 10, 1986.





# URBAN FIRE RISKS - OIL PRODUCTION FACILITIES







## 4 ENVIRONMENTAL IMPACT ANALYSIS

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The City's historic position, as a major oil field and producer of recovered unrefined oil, creates a source of significant combustion and urban fire. The City's oil fields have 149 active producer well sites, 47 active water injection wells, 133 inactive producer wells and eight inactive water injection well sites. There are eight oil industry tank farms and compression plants. Figure 41 designates the areas within the City that pose oil-related hazards.

The following agencies regulate the operation, closure and development of the Santa Fe Springs Oil and Gas Field.

- Department of Conservation, Division of Oil and Gas (DOG)

The DOG is charged with the supervision of oil operations to prevent 1) damage to life, health, property and natural resources; 2) damage to underground and surface waters suitable for irrigation or domestic use; 3) loss of oil, gas or reservoir energy; and, 4) damage to oil and gas deposits by infiltrating water and other causes. The Division must be notified to witness or inspect all operations, including tests and inspections of blowout equipment, reservoir and fresh water protection measures and well plugging operations.

- Los Angeles County Department of Health Services/ Hazardous Materials Division

The Department is responsible for supervising the cleanup of contaminated sites. If site contamination is extensive, however, cleanup supervision may be referred to the California Environmental Protection Agency, Regional Water Quality Control Board or Department of Toxic Substances Control.

Other agencies involved in this issue would be the City of Santa Fe Springs, South Coast Air Quality Management District, Regional Water Quality Control Board, California Environmental Protection Agency/ Department of Toxic Substances Control and the Orange County Environmental Health Department.

Environmental issues related to development in oil fields include soil and groundwater contamination, repressurization of the field with methane gas when oil operations cease and methane gas leakage are addressed elsewhere.

Contaminated sites in the Santa Fe Springs Oil and Gas Field include sumps where oil field waste was disposed. Unrefined oil contains a variety of hazardous constituents, including polyaromatic hydrocarbons (PAH or PNA), which are carcinogens, benzene, toluene, xylene, ethylbenzene and heavy metals. Petroleum contamination is measured in terms of "Total Petroleum Hydrocarbons (TPH)" and indicator constituents, benzene, toluene, xylene and ethylbenzene, or BTX&E. The TPH cleanup action levels for industrial use is 1,000 parts per million (ppm), residential use is 100 ppm. BTX&E cleanup levels are often determined by the

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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use of the methodology set forth in the LUFT Manual for the underground storage tank cleanups. These levels are based on Proposition 65 Safe Drinking Water Act standards.

### **B. Hazardous Waste Transportation Routes**

#### **1. Truck Transportation**

The greatest probability of a major hazardous materials incident is from a transportation accident. The San Gabriel River Freeway (I-605) and Interstate 5 run through the city. Heavy truck traffic on both these routes can result in incidents. According to the Multi-Hazard Functional Plan, it is safe to assume that one out of every 12 commercial vehicles is carrying hazardous materials. Two refineries are located within City limits. As a result, a large number of trucks and tankers haul gasoline, diesel and liquid propane gas (LPG) from these facilities to locations throughout Southern California. These operations run 24 hours per day. Molten hot sulphur is hauled in tank trucks from the Los Angeles Harbor to a processing facility in Santa Fe Springs, while Dow Chemical routes tank trucks carrying caustic soda solution and hydrochloric acid through Santa Fe Springs to the Chevron U.S.A. oil field in Whittier.

During 1987-1991, the City of Santa Fe Springs experienced at least four transportation accidents involving the release of hazardous materials, including: 100 gallons of hydrochloric acid; 16,000 gallons of gasoline and oil; MACDERMID UE20 NA1719; and 100 gallons of neutral oil.

Significant risks to the community from the transport of hazardous materials currently exist for several reasons.

1. Many residential areas abut major arterials used to transport hazardous materials/waste such as the Interstates 605 and 5.
2. The existing transportation arterials are experiencing deteriorating traffic conditions as the volume of traffic continues to increase. These conditions are expected to continue to deteriorate further unless appropriate measures are taken to reduce the risk of accidents on congested streets.
3. Most users of virgin hazardous materials and hazardous waste generators are geographically dispersed so that most major and primary arterial highways (Imperial Highway, for example) must be used to transport hazardous waste. Furthermore, only about 3.1 percent of hazardous waste generators recycle their waste on-site, thereby resulting in more off-site transport of hazardous waste.
4. The I-5 and major arterials cross over the San Gabriel River and Coyote Creek. Spills could enter the waterways, affect sensitive biological resources and ultimately enter the harbors and Pacific Ocean.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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The responsibility for the safe transport of hazardous materials and the prevention and control of accidents involving hazardous materials is shared by State and local government.

### **2. Rail Transportation**

The City is traversed by two major rail corridors: Southern Pacific and Santa Fe railroads. A number of freight trains crisscross through the City hauling various types of hazardous and explosive materials, including chlorine and LPG. Only one partial train derailment has occurred in recent years on a rail spur due to debris on the tracks. A fuel tank on the engine was punctured and leaked. The odds of a hazardous materials incident involving a train are far less than for trucks, however, the severity is greater because numerous rail tankers could be involved and chemicals and explosive substances may be mixed together.

The transport of hazardous materials by rail is regulated primarily by the Department of Transportation (DOT). The State Legislature and the Public Utilities Commission (PUC) can also adopt and implement regulations, provided that they are not less stringent than regulations and do not interfere with interstate commerce. The City of Santa Fe Springs Fire Department can require the railroads to provide a list of all hazardous materials either transported or stored within their jurisdiction for emergency response planning purposes.

Following two major toxic spills that resulted from railroad derailments near Dunsmuir and Sea Cliff in California during the summer of 1991, the California Legislature passed several bills, targeted at improving the safety of hazardous materials shipments on California railroads. One of these bills, AB 151, amended the Public Utilities Code to require the PUC to request that the DOT make several changes in regulations governing the shipment of hazardous materials by rail. As a result, the PUC made the following recommendations to the DOT:

- Reclassification of certain chemical compounds as hazardous;
- Use of stronger rail cars;
- Use of more detailed manifests;
- New dynamic brake standards;
- Trackside defect detection devices;
- Special end-of-train braking apparatus for mountain grades;
- Freight car weight and loading standards;
- Improved regulations for accident and injury reporting;



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- Amendment of the Hours of Service Act to better address sleep deprivation.

Perhaps one of the more important provisions is the recommendation to use safer rail cars for hazardous materials. The National Transportation Safety Board (NTSB) in its "Safety Study, Transport of Hazardous Materials by Rail" notes that DOT-111 tank cars have a poor performance record when involved in accidents. Hazardous materials should be transported in stronger rail cars protected by head shields and thermal jackets. These new cars would slowly replace the old cars, as feasible.

### **3. Regulations**

The Hazardous Materials Transportation Act (HMTA) covers inspection, training and transportation requirements. This regulatory program is administered by the Department of Transportation (DOT). Recent revisions to the HMTA include emergency response planning and information requirements for transporters of hazardous materials.

The Resource Conservation and Recovery Act (RCRA), which is administered by the U.S. EPA requires the regulation of hazardous waste transporters, who must comply with recordkeeping, labeling and manifest requirements.

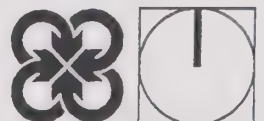
In general, HMTA has precedence over all other and State laws regarding hazardous materials transportation, unless it can be shown that they 1) provide equal or greater public protection, and 2) does not unreasonably burden commerce.

### **4. California Regulations**

California laws that govern the transportation of hazardous materials include the Hazardous Waste Control Law (HWCL) and the Hazardous Waste Haulers Act (HWHHA). These laws and accompanying regulations closely parallel those on the federal level. For example, the HWCL, administered by the State Department of Health Services (DHS) includes a manifest similar to that of the RCRA manifest for tracking the transport of hazardous wastes. However, California also requires licensing of hazardous waste transporters with the State DHS. The California Highway Patrol (CHP) is responsible for enforcing Vehicle Code regulation regarding labeling and handling of hazardous waste in transit, and inspects vehicles and equipment as well as shipping documents. The California Department of Transportation may designate routes and stopping places for the transportation of explosives subject to Division 14 of the Vehicle Code and the transportation in cargo tanks of fuming nitric acid, anhydrous hydrazine and liquid tetroxide.



# URBAN FIRE RISKS - POWER TRANSMISSION LINES





### **C. Power Transmission Lines**

High voltage power transmission lines and power stations can be sources of combustion and other hazards. Figure 42 shows the major power transmission lines and power substations with Santa Fe Springs.

### **D. Agricultural Areas**

Historically, Santa Fe Springs was primarily a farming and ranching community until 1921, when the first oil well was completed. Over the next forty years, agricultural uses were interspersed with oil field production. Oil production spawned industrial development that has almost entirely replaced agriculture. Today, three small remnant agricultural areas exist within the City:

- East side of the San Gabriel River;
- South side of Slauson Avenue and east of Norwalk Boulevard; and
- Northeast corner of Laurel Avenue and Lakeland Road.

The first two sites are adjacent to residential areas. Pesticide residues potentially exist in the soil from historic agriculture and contamination of the shallow groundwater with nitrates may be present from ranching.

Because of the diverse nature of agricultural production, many different types of pesticides are applied. The types of pesticides used and methods of application depend on such factors as time of year, crop type, weather and proximity to urban areas. Levels or concentrations of pesticides currently applied to these lands and residual pesticides that are present in soils within the project area cannot be determined until a site survey, and soil tests are conducted. Nearly all substances are soluble to some extent in water, and many chemical wastes are highly toxic even in minute concentrations. Substances of particular concern include herbicides, pesticides and other complex organic, petroleum products, and those substances that contain trace concentrations of metals.

A decline in groundwater quality results from the use of fertilizers and other agricultural chemicals, as well as from disposal of wastes on the land surface; in shallow excavations including septic tanks, through deep wells and mines; leaks in sewers, storage tanks and pipelines; and animal feedlots. Contamination is common near crop dusting aircraft strips and at agricultural-related businesses. Currently, there are no state-registered pesticide dealers or applicators within the Study Area.



### E. Seismic Characteristics and Hazards

The City of Santa Fe Springs is located in the vicinity of several known active and potentially active earthquake faults, as shown on Figure 43, including the San Andreas, the San Jacinto, Whittier-Elsinore and the Newport-Inglewood. The Norwalk Fault, to the south, is potentially active. The most immediate threat is posed by the southern section of the San Andreas Fault and the Newport Inglewood Fault.

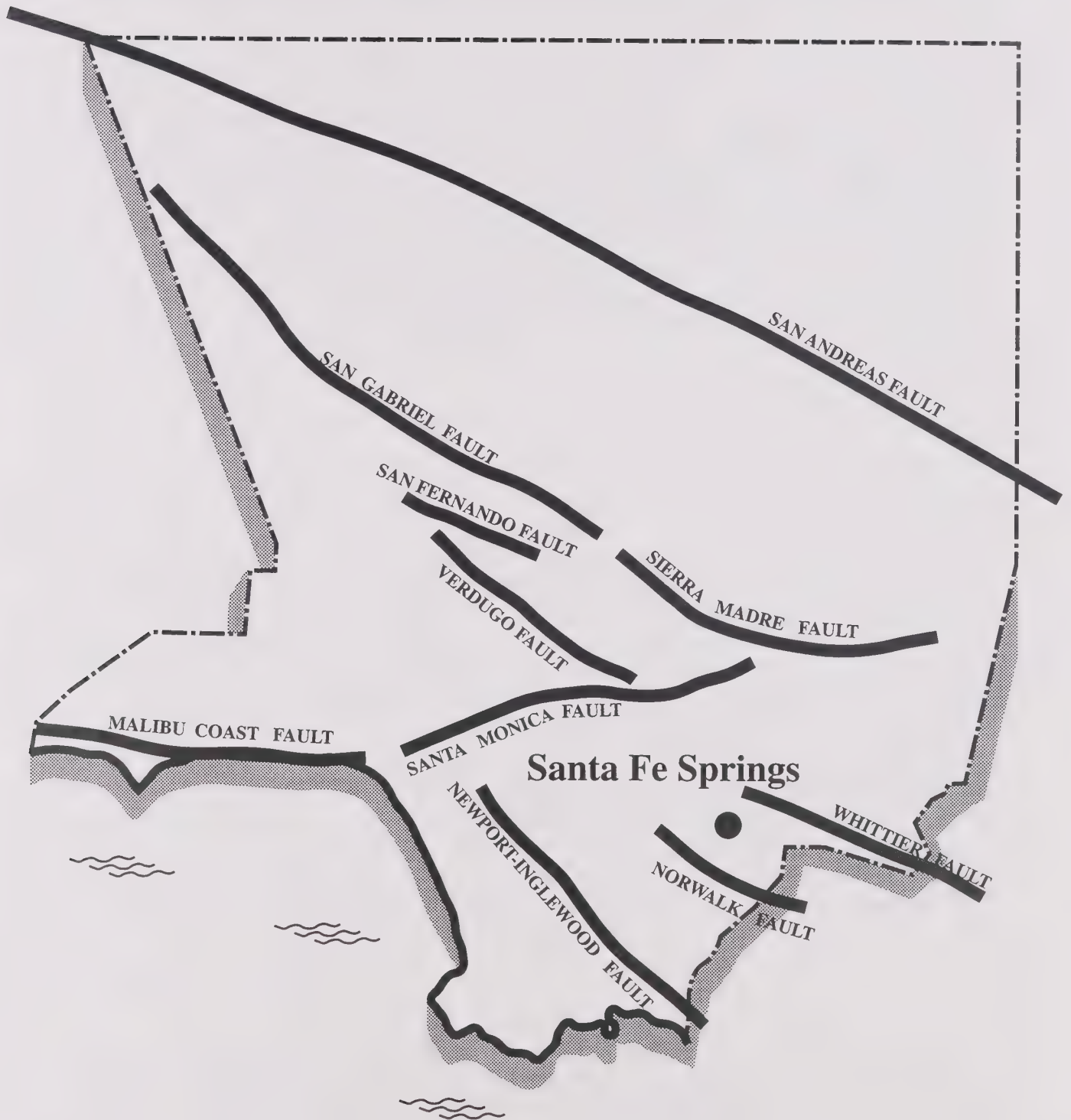
A major earthquake in Santa Fe Springs may cause many deaths and casualties, extensive property damage, fires and hazardous materials spills, and other ensuing hazards. These effects could be aggravated by aftershocks and by secondary effects of fire, hazardous materials incidents and possible failure of the waterways and dams. The time of day and season of year would have a profound effect on the number of dead and injured and the amount of property damage sustained. Generally, the potential hazards that the City of Santa Fe Springs may face in an earthquake include ground rupture, groundshaking and liquefaction.

#### 1. Ground Rupture

Ground rupture is the fracturing of the earth's surface along a faultline. Rupture can cause a ground surface displacement where utility lines, transportation facilities, pipelines, buildings and other structures may experience severe structural damage.

#### 2. Groundshaking

The most significant earthquake action in terms of potential structural damage and loss of life is groundshaking. Groundshaking is the movement of the earth's surface in response to a seismic event. The intensity of the groundshaking and the resultant damages are determined by the magnitude of the earthquake, distance from the epicenter, and characteristics of surface geology. This hazard is the primary cause of the collapse of buildings and other structures.



## MAJOR FAULT SYSTEM OF THE LOS ANGELES BASIN

The Planning Center



Santa Fe Springs General Plan Update Environmental Impact Report  
Figure 43



### 3. Liquefaction

In many areas, buildings will be destroyed or rendered unusable due to liquefaction. Liquefaction is a phenomenon involving the loss of shear strength of a soil. The shear strength loss results from the increase of pore water pressure caused by the rearrangement of soil particles induced by shaking or vibration. Liquefaction has been observed in many earthquakes, usually in soft, poorly graded granular materials (i.e. loose sands), with high water tables. Liquefaction usually occurs in a soil during or shortly after a large earthquake. In effect, the soil strata behave as a heavy liquid. Buried tanks may float to the surface and objects above the liquefaction strata may sink. Pipelines passing through the liquefaction materials typically sustain a relatively large number of breaks in an earthquake.

### 4. San Andreas Fault

The dominant active fault in California is the main element of the boundary between the Pacific and Northern American tectonic plates. The southern section of the San Andreas Fault runs parallel to the coastline started at the northernmost portion of Frazier Park and runs in a southeasterly direction to the Salton Sea. This southern section is divided into two parts: the northern section running from Fort Tejon to Cajon is referred to as the Mojave Section. The Indio Section starting at Cajon runs south to the Salton Sea. Geologists can demonstrate that at least eight major earthquakes of 8.0 or larger have occurred along the southern section of the San Andreas Fault in the last 1,200 years with an average spacing in time of 131 years plus or minus 30 years. The last event occurred in 1857 (Fort Tejon Earthquake). Based on the evidence and other geophysical observations, geologists in 1980 estimated the probability of the reoccurrence of a similar earthquake as large as five percent per year and greater than 50 percent in the following 30 years. New evidence disclosed by the scientific community at Caltech has indicated a great probability of having a catastrophic earthquake of 8.0 or greater in the next 15 years. Dr. Kerry Sieh of Caltech has indicated that the current seismic activity in Southern California, starting with the 1986 Palm Springs earthquake, may well be the foreshocks associated with a large earthquake on the Indio Section of the San Andreas Fault. He also suggested that this seismic activity may be seen for years prior to a great quake.

### 5. Newport Inglewood Fault

This fault extends from the Santa Monica Mountains southeastward through the western part of Orange County to the offshore area near Newport Beach and is located southwest of the City of Santa Fe Springs. It was the source of the 1933 Long Beach Earthquake (magnitude 6.3), which caused 120 deaths and considerable property damage. During the past 60 years, numerous shocks ranging from a magnitude of 3.5 to 5+ have been recorded. It is believed capable of generating a magnitude of 7+ earthquake within the next 50 to 100 years. Planning scenarios from the State Office of Emergency Services have indicated that an earthquake with a magnitude of 6.5 on the



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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Newport-Inglewood Fault may cause more death and destruction than an 8.3 earthquake on the Southern Section of the San Andreas Fault.

Construction in seismically active areas is regulated by a variety of laws, programs and regulations.

### 6. U.S. EPA and California EPA Regulations

The U.S. EPA and DTSC require, as part of the RCRA Part B permit, a seismic activity evaluation of the site. The evaluation must show that: 1) there are no faults; 2) there are no lineations suggesting the presence of a fault located within 3,000 feet of the facility; or 3) there are no faults located within 200 feet of the active portion of the facility, as determined by a comprehensive geologic analysis of the site. The State of California prohibits locating a hazardous waste management facility within 200 feet of an active fault (California Administrative Code (CAC), Title 22, Section 66391(a)(11)(A.1, and .2). This regulation pertains to areas of ground rupture, but expands the area of concern to within 3,000 feet of a fault.

### 7. California Alquist-Priolo Special Studies Zone Act

The Alquist-Priolo Special Studies Zone Act specifically requires the State Geologist to: "Delineate... fault or segments thereof, as he deems sufficiently active and well-defined as to constitute a potential hazard to structures from surface faulting or fault creep."<sup>36</sup> This does not mean that faults having no evidence for surface fault rupture within Holocene time are necessarily inactive; it means only that the potential for surface fault rupture is low,<sup>37</sup> and it is appropriate to state that surface fault rupture hazards are considered low at this location. This regulation pertains to areas of ground rupture within 200 feet of a fault.

### 8. Uniform Building Code (UBC)

Adherence to UBC standards, in conjunction with site-specific geotechnical engineering recommendations, are generally considered the best mitigation method currently available to reduce hazards from groundshaking, although this would not totally eliminate the potential for

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<sup>36</sup> California Department of Conservation, Division of Mines and Geology, revised 1990. Fault-Rupture Hazard Zones in California: Alquist-Priolo Special Studies Zones Act of 1972 with Index to Special Studies Zones Maps, Special Publication 42, p. 2.

<sup>37</sup> Ibid., p. 5.

building collapse or structural damage caused by large earthquakes. The UBC standards for Seismic Zone 4 assume a maximum 0.4g level of ground acceleration.

### 9. California Seismic Safety Mapping Act

Due to the statewide potential for severe geologic hazards and concerns regarding personal injury and property damage from future earthquakes, the Seismic Safety Mapping Act was passed in 1990. This new law calls for delineation of special Seismic Hazards Study Zones (SHSZ) or areas of high potential for enhanced groundshaking, liquefaction, earthquake-induced landslides, and other ground failures, which collectively call for most earthquake losses. The law requires the state geologist to compile maps identifying seismic hazards and submit them to the State Mining and Geology Board (SMGB) and to all affected cities, counties, and State agencies for review and comment. Revisions of the final maps will then be provided to each State agency, county or city having jurisdiction over lands containing an area of seismic hazard. This mapping program has just gotten underway, and it is expected to take several years before compilation of the first maps, therefore it is not certain whether all or parts of City would fall into a SHSZ. However, with the existing local and regional faults in the City and the risk for groundshaking, landslides, ground failure and liquefaction, it is a reasonable assumption that during the lifetime of the proposed project that the City will be affected by this program.

Once the SHSZ maps are prepared by the State, the responsibility for development of policies and implementation programs will become the responsibility of local governments with SHSZs within their boundaries, not unlike the current requirements of the Alquist-Priolo Special Studies Zones. The law says that local governments will be required to:

- Require a geotechnical report defining and delineating any seismic hazard and recommending appropriate mitigation prior to approval of a project in a seismic hazard zone.
- Post notice of the location of newly issued maps at the offices of the county recorder, county assessor, and planning commission.
- Utilize the criteria established by the SMGB in approving proposed projects within designated seismic hazard zones.
- Incorporate the information in the seismic hazard maps into the safety element of general plans, and in the adoption and revision of land-use planning and permitting ordinances.<sup>38</sup>

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<sup>38</sup> Natural Hazards Observer, Vol. XVI, No. 3, January 1991, pp.14-15. Also, telephone conversation with Charles Real, California Department of Conservation, Division of Mines and Geology, 630 Bercut Drive, Sacramento, CA.

This regulation pertains to ground rupture, groundshaking and other areas of geological hazards.

### 10. Los Angeles County General Plan Safety Element

Leighton and Associates prepared a technical report dealing with geological hazards in Los Angeles County. The report identified, mapped and categorized all faults within Los Angeles County. Some faults were categorized as "seismically active" that have not been designated a "Alquist Priolo Zone". Recommendation contained within the Safety Plan pertain to areas of ground rupture, groundshaking, liquefaction and earthquake-induced ground settlement.

### F. Los Angeles County Hazardous Waste Management Plan

The CoHWMP incorporates the State of California prohibition set forth in Title 22 of the California Administrative Code for the siting of hazardous waste facilities within 200 feet of an active fault by requiring a 200 foot setback. This regulation pertains to areas of ground rupture within 200 feet of an active fault, as defined specifically in the CoHWMP, whether or not it is within an Alquist-Priolo Zone.

Leighton & Associates prepared the Technical Appendix to the Safety Element of the Los Angeles County General Plan, which provided the technical documentation for seismic hazards in Los Angeles County. Leighton & Associates notes that there is a regional vulnerability to hazardous materials releases, exasperated by regional seismicity. High-risk facilities include those which, if severely damaged, could cause catastrophic disasters far beyond the facility itself. Buildings storing hazardous materials are vulnerable to structural damage not only from fault rupture and liquefaction, but also from strong earthquake ground motion with seismic intensities as low as MM VIII.<sup>39</sup> The Earthquake Planning Scenario for a major earthquake (M 7 - magnitude 7.0) on the Newport-Inglewood Fault identifies potential for intensity VIII or greater at this location.<sup>40</sup>

Groundshaking hazards increase in areas of liquefiable soils. Soils in the Study Area vicinity have been identified as potentially *liquefiable*.<sup>41</sup> Since liquefaction hazards are very localized,

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<sup>39</sup> Leighton & Associates, January 1990. Technical Appendix to the Safety Element of the Los Angeles County General Plan, Hazard Reduction in Los Angeles County, Vols. 1 & 2.

<sup>40</sup> Topozada, T.R., *et al.*, 1988. Planning Scenario for a Major Earthquake on the Newport-Inglewood Fault Zone, California Department of Conservation, Division of Mines and Geology, Special Publication 99, Plate 5-S.

<sup>41</sup> Leighton & Associates, January 1990. Technical Appendix to the Safety Element of the Los Angeles County General Plan, Hazard Reduction in Los Angeles County, Vols. 2, Plate #4 "Liquefaction Susceptibility"; and Topozada, T.R., *et al.*, 1988. Planning Scenario for a Major Earthquake on the Newport-Inglewood Fault Zone, California Department of Conservation, Division of Mines and Geology, Special Publication 99, Plate 5-S..



projects within a zone identified as having liquefaction potential need to be assessed on a site-specific basis, unless it can be documented that historic groundwater levels are greater than 50 feet below ground level. The CoHWMP requires that facilities located in these areas should have engineered designed features to assure structural stability. Other weak soils conditions widely distributed throughout alluvial areas in Los Angeles County include earthquake-induced ground settlement hazards, which are also potentially damaging.

### **G. Emergency Management System**

The emergencies described above are managed by the Emergency Management Agency. In an emergency that exceeds California's response capabilities, FEMA provides coordination of forces and disaster relief. FEMA also administers the flood insurance program. At the State level, emergencies are managed by the Governor's Office of Emergency Management (OES). The State of California is divided into six OES mutual aid regions. The City of Santa Fe Springs is in Region 1, along with the rest of Los Angeles County and Orange, Ventura, Santa Barbara and San Luis Obispo Counties. When an emergency exceeds local capabilities, the OES is called in. The OES opens an emergency operations center in Sacramento to coordinate resources and manpower provided by virtually all other State agencies. At the local level, an emergency operations center is also opened. Many county agencies and the Red Cross work together to respond to the emergency and provide disaster relief. The roles and responsibilities of all agencies are set forth in the City of Santa Fe Springs Multi-Hazard Functional Plan and the Hazardous Materials Area Plan.

Hazardous materials incidents receive special attention, due to their commonality and consequences. Incidents are minimized and/or prevented through the Hazardous Materials Disclosure Program (AB 2185, 2187 and 3777). All industries handling hazardous materials in excess of specified quantities must report detailed information regarding the handling, storage, or spillage of this material. This report is called a "Business Plan" and includes an emergency response plan. Facilities handling acutely hazardous materials exceeding threshold quantities must also prepare a Risk Management and Prevention Plan (RMPP). The RMPP is an assessment of potential accidents, consequences and mitigation measures. The administering agency must then develop a comprehensive Area Plan for hazardous materials emergency responses.

Hazardous materials spills which could potentially run off into the storm drain system are regulated under the National Pollution Discharge Elimination System (NPDES) program. All facilities potentially impacted the storm drainage system must prepare a Stormwater Pollution Prevention Plan (SPPP). The SPPP identifies potential spills and sets forth training and response measures to minimize and mitigate consequences.

The City of Santa Fe Springs Fire Department is the likely first responder to a hazardous materials incident. Due to the intensity of industrial uses, the Fire Department employs nine



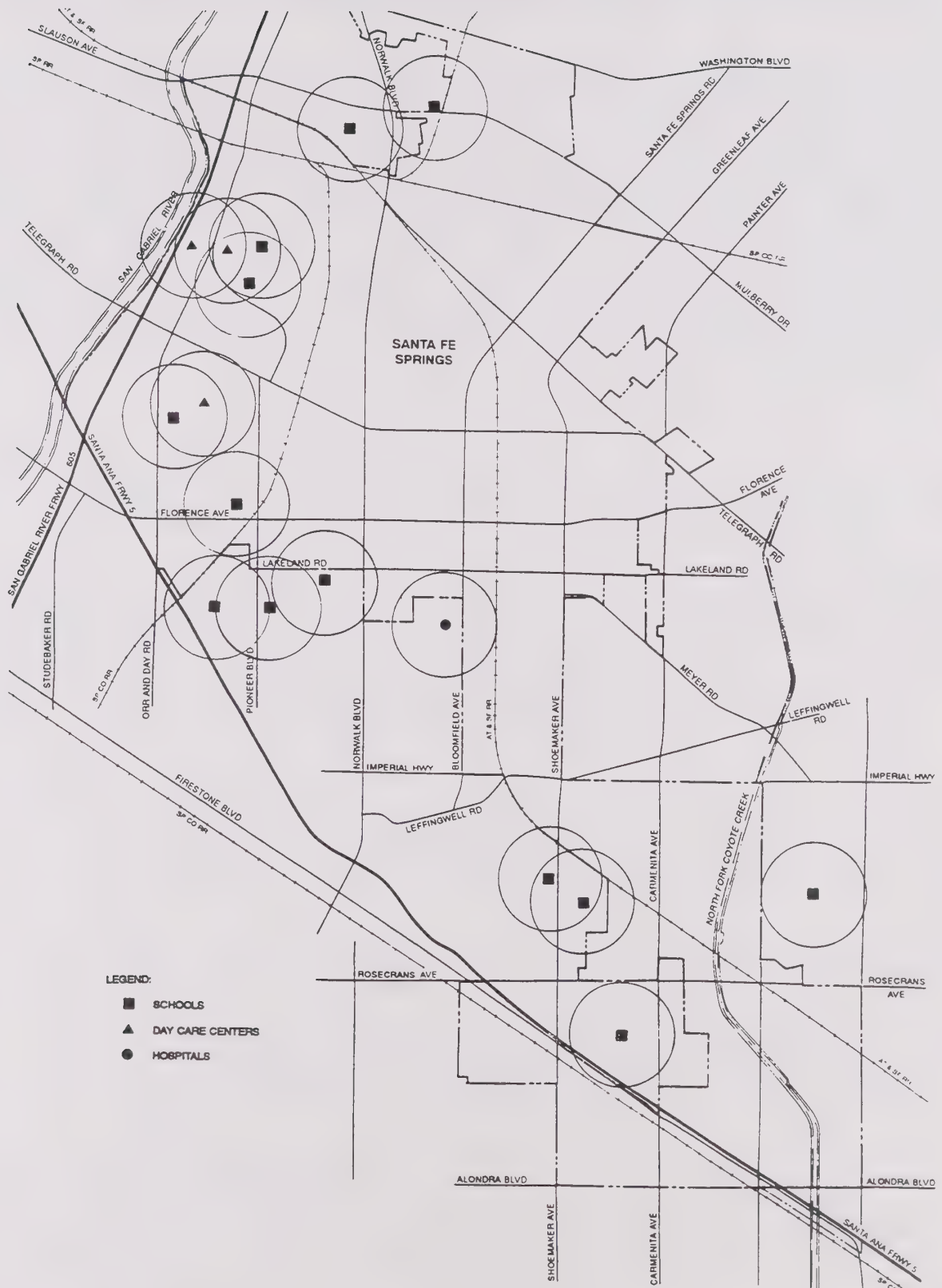
trained hazardous materials specialists. They also maintain a specially equipped emergency response unit and trailer. The Department utilizes the CAMEO Hazardous Materials software during incidents to generate probable air plumes and evacuation distances. All incidents are critiqued to improve future performance.

The City of Santa Fe Springs has a Memorandum of Understanding with the Los Angeles County Consolidated Fire Protection District. The County also operates a trained and specially equipment Hazardous Materials Emergency Response Team which is able to respond to virtually any chemical emergency. The county team is called in when the capabilities of the Santa Fe Springs Fire Department are exceeded.

### **H. Sensitive Land Uses**

Health effects caused by exposure of neighboring uses as a result of the emission of toxic air contaminants during accidents is regulated under Chapter 6.95 of the Health and Safety Code. Industrial, agricultural and commercial facilities within the Study Area which involve the storage, handling, use and disposal of acutely hazardous materials or large quantities of hazardous materials must prepare a Risk Management and Prevention Plan (RMPP). Plan approvals and building permits cannot be issued until either the preparation of the RMPP has commenced or the administering agency has exempted the business from the requirement. The buildings cannot be occupied until the RMPP is complete. These requirements most likely will not trigger the public review process however. Public review can be accomplished by adopting a requirement which states that if the administering agency requires an RMPP for a proposed project, then the City of Santa Fe Springs would require a conditional use permit. The RMPPs can assist city and county emergency responders with more efficient, planned responses to hazardous materials incidents.

Figure 44 shows the locations of schools, day care centers and hospitals in Study Area. Residential areas located near industrial areas are shown in Figure 3 in Section 3.1.



# SENSITIVE LAND USES

The Planning Center



Special attention should be paid to these issues during the land use planning process to further minimize health impacts on the Study Area community. For example, sufficient buffers should be required between residential and industrial uses and local Area Plans should be updated regularly to assure the fastest and most appropriate response possible to incidents. Immobile populations which cannot be evacuated readily, such as schools, healthcare facilities, stadiums and shopping malls, should not be located near industrial areas where large quantities of hazardous materials are utilized. Facilities identified by a Toxic Hot Spots Health Risk Assessment as areas of significant health risk from a facility. Special attention should be paid to any new proposed use which could emit significant amounts of toxic air contaminants. All potential emitters should submit an emissions inventory as part of applications for development entitlements.

### 4.11.2 Environmental Impacts and Mitigation Measures

#### ***IMPACT: POTENTIAL FOR ENVIRONMENTAL CONTAMINATION DUE TO INCREASED INDUSTRIAL USES***

***Impact Analysis:*** Virtually all homes and businesses handle hazardous materials and generate hazardous waste in some amount. Since commercial and industrial uses would increase due to the proposed project, increased amounts of hazardous materials would be handled within the Study Area, however, it would be speculative at the General Plan level to predict exact types and amounts, since commercial and industrial operations vary widely.

#### ***Policies Included in General Plan:***

- 7.5.1 The planning process will be used to balance the interests of economic development and the hazard exposures associated with chemical and hazardous material land uses.
- 7.5.2 Continue to monitor the City's performance in meeting the waste stream goals contained in the City's Hazardous Waste Management Plan.
- 7.5.3 Assure compliance, through inspection, of all requirements regarding the posting of permits, placards and disclosure statements related to the storage, use and transportation of hazardous materials.

***Additional Mitigation Measures Required:*** None.

***Level of Significance After Mitigation:*** Less than significant.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **IMPACT: PUBLIC SAFETY HAZARDS DUE TO EXPOSURE TO HAZARDOUS OCCUPANCIES AND CONTAMINATED SITES**

**Impact Analysis:** Hazardous occupancies and contaminated sites create public nuisance problems such as odors and public health problems. Industrial and commercial occupancies and many public facilities uses, such as power plants and city corporation yards store and handle hazardous materials and wastes. Land use conflicts are often created when sensitive uses, such as residences, daycare centers, schools, hospitals and other large immobile populations are sited near the uses involving hazardous materials. Contaminated sites also restrict land uses both on-site and off-site. Open space is lost because they are not appropriate for active or passive uses. Land that is contaminated may be cleaned up but it may never be appropriate for all uses. Areas adjacent to the contaminated sites may have land use "deed restrictions" placed on them by Cal-EPA. The width of this land use restricted "buffer" is determined by the Cal-EPA, often based on health risk assessments.

Special care should be taken in the planning process to assure that sensitive uses are not sited next to hazardous uses.

**Policies Included in the General Plan:** Refer to Policies 7.5.1 to 7.5.3 above.

#### **Additional Mitigation Measures Required:**

- 4.11-1        The City of Santa Fe Springs shall review all development applications for potential land use conflicts related to hazardous materials.
- 4.11-2        The City of Santa Fe Springs and school districts shall not approve any school or daycare center within a 1/4-mile radius of the storage of hazardous materials without requiring the performance of a health risk assessment (Public Resources Code Section 21151).
- 4.11-3        The City of Santa Fe Springs shall maintain on file a current list, developed by the Los Angeles County Environmental Health Department, of all hazardous waste sites and deed-restricted properties and shall not approve any application for sites on the list without consulting with the Los Angeles County Environmental Health Department and the California Environmental Protection Agency.

**Level of Significance After Mitigation:** Less than significant.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **IMPACT: PROXIMITY OF INDUSTRIAL USES TO SENSITIVE RECEPTORS**

**Impact Analysis:** The proposed Land Use Plan would designate areas of industrial uses which are in close proximity to residential areas. The following issues are related to the proximity of industrial uses to residential areas.

#### **Health Risks caused by Hazardous Air Emissions**

The proposed Land Use Plan would designate large parcels of land for large industrial facilities. Special consideration during the project review process should be given to industrial facilities that emit toxic air contaminants. The siting of such facilities in the vicinity of "sensitive receptors", defined as residences, schools, playgrounds, childcare centers, hospitals, convalescent homes, retirement homes, rehabilitation centers and athletic facilities, can result in significant health impacts. Conversely, the proposed Land Use Plan would designate industrial areas in close proximity to residential and an elementary school. The siting of sensitive receptors near existing industrial facilities can also result in significant health impacts. The proximity of potential receptors is an essential factor in prioritization of potential health risks from existing facilities. If future development approvals result in the siting of receptors in closer proximity to an emitting facility, a low priority facility could become a high priority facility. Therefore, residential populations could be exposed to significant cancer risk levels. All new residential development should be evaluated for proximity to emitters of hazardous substances and all new potential emitters should submit, at minimum, a hazardous air emissions inventory, and if warranted, a health risk assessment.

#### **Health Risks and Evacuation during Hazardous Materials Incidents**

Due the closeness of sensitive receptors to industrial areas, during hazardous materials incidents, the potential for off-site health impacts may occur, resulting in the need for evacuation. All businesses that handle "reportable quantities" of hazardous materials must submit a "business plan" to the Los Angeles County Environmental Health Department, Hazardous Materials Division which provides an inventory of the materials and a plan to mitigate incidents, should they occur. When acutely hazardous materials or large quantities of non-acutely hazardous materials are handled, State law requires the preparation of a Risk Management and Prevention Plan (RMPP). Plan approvals and building permits cannot be issued until either the preparation of the RMPP has commenced or the administering agency has exempted the business from the requirement. The buildings cannot be occupied until the RMPP is complete. While these requirements assure that an RMPP is on file with the Los Angeles County Environmental Health Department prior to occupancy of the facility, they do not assure that the RMPPs are available during the discretionary decision-making process.

### Contamination of Sources of Drinking Water

The proposed Land Use Plan would designate additional areas of the Study Area for large, industrial facilities. The City of Santa Fe Springs and surrounding Study Area are largely dependent on groundwater for their water supply. Industrial facilities have historically contaminated the groundwater due to underground storage tank leaks and other leaks from clarifiers, piping, equipment washing areas and floor drains. The stringent and State requirements for secondary containment and monitoring of underground storage tanks is sufficient to mitigate further problems from new underground storage tanks. Old tanks are currently in the replacement process. Clarifiers must now have secondary containment and must be approved under the Cal-EPA Permit-By-Rule process. New facilities handling hazardous materials are highly regulated and are far less likely to contaminate the environment. However, project-specific review is needed to identify the potential for any site contamination problems, as well as identify any sensitive environmental receptors, such as drinking water wells, pipelines, exceptionally high groundwater or known continuity between the shallow and deep aquifers. If site contamination exists, the City of Santa Fe Springs should contact the County Health Department, Hazardous Materials Division.

*Policies Included in General Plan:* Refer to Policies 7.5.1 to 7.5.3 above.

### *Additional Mitigation Measures Required:*

4.11-4 During the environmental review of development projects, where warranted, the City of Santa Fe Springs shall contact the South Coast Air Quality Management District to identify facilities within the project vicinity that emit toxic air contaminants. The City shall notify the SCAQMD of the proposed project and shall ask for a determination that either:

- Facilities exist within the project vicinity that, based on a Health Risk Assessment, are known to emit toxic air contaminants resulting in a cancer risk of greater than one in one million or ten in one million; or
- Facilities exist within the project vicinity that emit toxic air contaminants, but were not required to prepare a health risk assessment due to the lack of proximity of receptors; or
- No facilities exist within the project vicinity that emit toxic air contaminants.

The City of Santa Fe Springs shall not approve residential uses and other sensitive receptors within zones of cancer risk identified by a Health Risk Assessment of greater than ten in one million. If facilities exist within the project vicinity that



## 4 ***ENVIRONMENTAL IMPACT ANALYSIS***

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were not required to prepare a Health Risk Assessment due to the lack of proximity of receptors, the City shall discuss the proposed project with the SCAQMD to determine the potential for health impacts on the new development.

- 4.11-5 The City of Santa Fe Springs shall require a conditional use permit for any project that handles acutely hazardous materials and that the Los Angeles County Environmental Health Department has determined must prepare a RMPP. The RMPP shall be submitted to the City as part of a complete application.
- 4.11-6 The City of Santa Fe Springs and all school districts shall not approve the siting of new schools within a 1/4-mile radius of the storage and handling of hazardous materials unless it has been shown that no significant health risk exists. The City of Santa Fe Springs shall not approve any new industrial or commercial use within 1/4-mile of schools, daycare facilities, convalescent homes and medical facilities unless it has been shown that no significant health risk exists. The City and school districts shall utilize the standards set by the South Coast Air Quality Management District, Cal-EPA Department of Toxic Substances Control or Air Resources Board at the time of project approval. The current standard of significant cancer risk shall be one in one million or ten in one million if Best Available Control Technology is utilized. The current standard of significant non-cancer health risk is a hazard index of .5.
- 4.11-7 During the review of all projects, the City of Santa Fe Springs shall consult with or review data provided by the Los Angeles County Environmental Health Department, Regional Water Quality Control Board, Department of Toxic Substances Control and Integrated Solid Waste Management Agency to determine if any known contamination exists on the proposed site. If contamination exists, the City shall require that the site be remediated prior to the issuance of any building or grading permits.
- 4.11-8 During the site review process for industrial projects, the City of Santa Fe Springs shall identify any sensitive environmental receptors in the project vicinity for groundwater contamination, such as drinking water wells, pipelines, aqueducts, high groundwater, recharge areas, or known continuity between shallow and deep aquifers. If these conditions exist, additional mitigation may be needed, such as groundwater monitoring wells.

*Level of Significance After Mitigation:* Less than significant.



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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### **IMPACT: INCREASED POTENTIAL FOR ACCIDENTAL RELEASES DUE TO TRUCKING ACCIDENTS**

**Impact Analysis:** Trucking on highways and local streets is probably the most common method for the transportation of hazardous materials and wastes in Santa Fe Springs. A hazardous materials incident during vehicular transport could result in the following impacts:

- Direct exposure of motorists and emergency responders, i.e., firefighters, highway patrolmen, ambulance workers and paramedics, Caltrans workers, etc. to hazardous substances resulting in acute and chronic health effects;
- Contamination of the right-of-way and surrounding environment due to uncontained runoff from the incident;
- Exposure of residents and employees in the surrounding area to increased health risks as a result of a gaseous materials release; or
- Destruction of the environment and structures and injury to humans as a result of a fire associated with a hazardous materials release.

The number and severity of hazardous materials incidents on local and collector streets, and freeways within the Study Area may increase due to an increased number of commercial vehicles servicing the Study Area. Accident potential could increase at high-accident areas, such as intersections. The proposed General Plan would also allow development near major highways. The City should coordinate with Caltrans when considering the development of sensitive receptors along major roadways. However, an attempt to identify specific accident locations would be speculative, however, the potential for significant impact would exist at any location. Therefore, this impact is potentially significant.

**Policies Included in General Plan:** The Safety Element has the following policy related to this issue.

- 8.6.1 Within reasonable resource expenditures, the City is committed to providing sufficient emergency response capabilities to minimize the threats to personal injury, loss of life and property due to hazmat incidents.

#### **Additional Mitigation Measures Required:**

- 4.11-9 The City of Santa Fe Springs shall identify high accident potential streets and intersections and shall establish recommended transportation routes that will avoid these areas, wherever possible (see Figures 45 and 46).

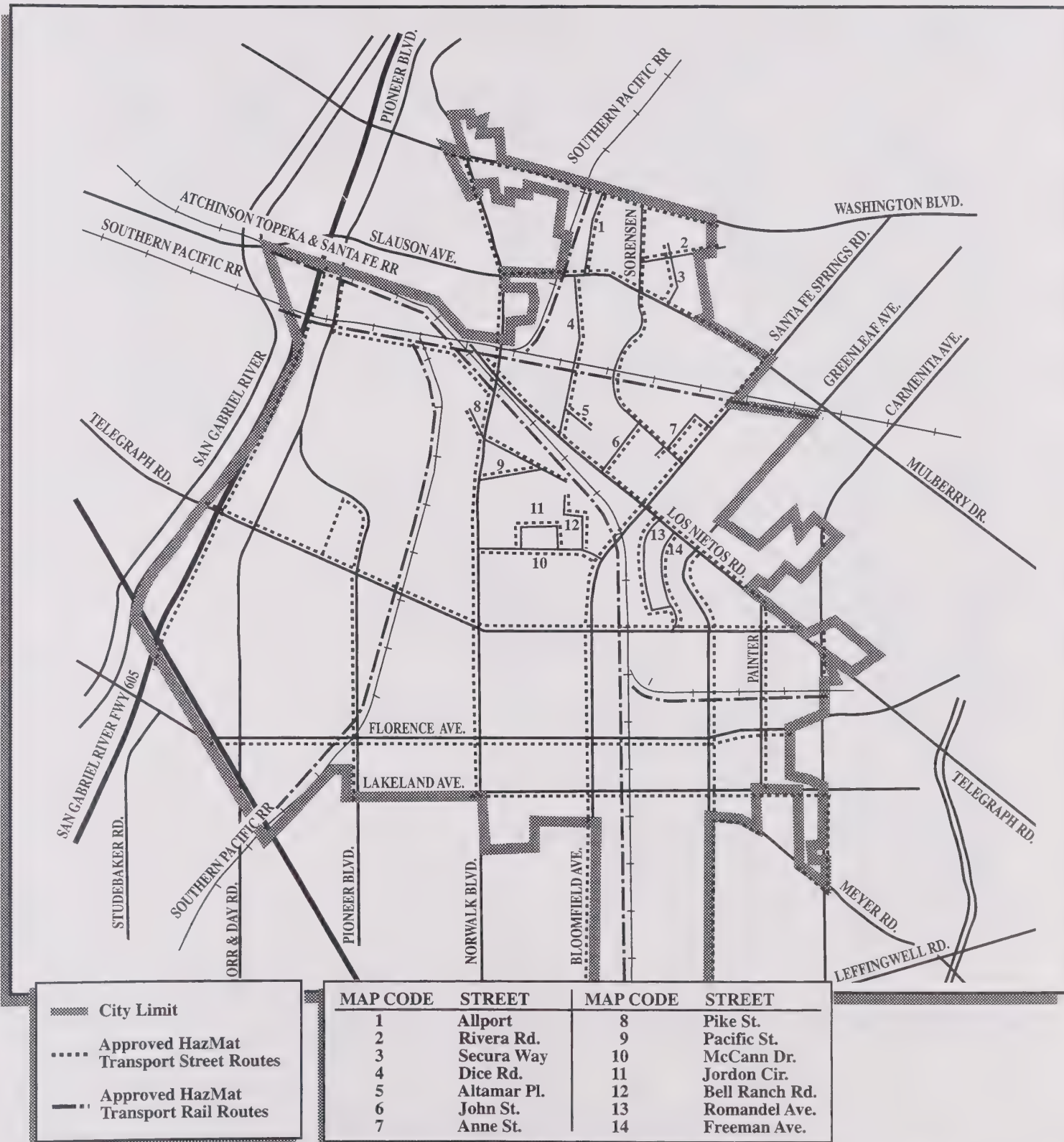
## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- 4.11-10 The City of Santa Fe Springs Fire Department shall update the Multi-Hazardous Functional Plan as required to respond as quickly as possible.
- 4.11-11 The City of Santa Fe Springs shall identify any high-accident risk areas within the proposed circulation system. The City shall implement feasible mitigation measures to reduce the potential for accidents, and shall work with the California Department of Transportation (Caltrans), where applicable. When considering the development of sensitive receptors, the City shall consider the proximity to designated explosives routes (Section 1150 of the California Code of Regulations).

*Level of Significance After Mitigation: Less than significant.*





## HAZARDOUS MATERIALS TRANSPORTATION ROUTES (NORTH SANTA FE SPRINGS)









- City Limit
- Approved HazMat Transport Street Routes
- Approved HazMat Transport Rail Routes

MAP CODE	STREET	MAP CODE	STREET
1	Greenstone	7	Gannet St.
2	Larwin Cir.	8	Bona Vista
3	Bora Dr.	9	Arctic Cir.
4	Borate St.	10	Molette St.
5	Anson Ave.	11	Cornet St.
6	Radburn Ave.		

## HAZARDOUS MATERIALS TRANSPORTATION ROUTES (SOUTH SANTA FE SPRINGS)





## 4 ENVIRONMENTAL IMPACT ANALYSIS

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### **IMPACT: INCREASED POTENTIAL FOR HUMAN EXPOSURE AND PROPERTY DAMAGE FROM RAILCAR DERAILMENTS**

*Impact Analysis:* Increased urbanization along the existing railroads and increased use of the lines within the Santa Fe Springs Study Area would result in the increased potential for human exposure and property, should a derailment occur in the future. Development near rail lines can create potential risks to life and property. The National Transportation Safety Board prepared a study approximately 10 years ago that found that the ultimate distance that derailed cars can travel is 100 feet. Therefore, it may be prudent to require a 100 foot open space buffer on either side of the rail line to reduce the potential for human injury and property damage. Buffering cannot mitigate the impacts of a toxic air release, however. A ruptured tank car of Liquefied Petroleum Gas, for example, can fill one square mile with explosive levels of vapor. The risk of exposure due to air releases may be reduced through fast action by the local emergency response agencies. The City of Santa Fe Springs Fire Department should obtain lists of all materials transported or stored in railcars in the community and should update the Multi-Hazard Functional Plan and Area Plan accordingly. Further, all responding agencies should be properly trained to respond safely to rail car incidents.

The specific impact of a hazardous materials incident related to a rail car derailment would vary depending on location. Determining potential locations would be speculative. However, the potential impact at any location is potentially significant.

*Policies Included in General Plan:* None.

#### *Additional Mitigation Measures Required:*

- 4.11-12 The City of Santa Fe Springs shall encourage the use of rail transport over truck transport of hazardous materials.
- 4.11-13 The City of Santa Fe Springs Fire Department shall obtain a list from the railroad, pursuant to PUC General Order 161, of all hazardous materials either transported or stored by the railroads within the Study Area boundaries. The Fire Department shall revise the Area Plan and the Multi-Hazard Functional Plan as necessary to provide for the safest possible response.
- 4.11-14 The Fire Department shall provide this information to the Los Angeles County Hazardous Material Incident Response Team.



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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### **IMPACT: STRUCTURAL DAMAGE RESULTING IN IMPACTS TO HUMAN HEALTH AND SAFETY DUE TO EARTHQUAKES**

**Impact Analysis:** The General Plan encourages the continued protection of existing residential neighborhoods and little new residential development. The industrial development that is likely as oil production lands are redeveloped would be low-rise structures that do not present an unusual risk from earthquakes.

**Policies Included in General Plan:** The Safety Element contains two policies relevant to this issue.

- 2.5.1 Soils analysis and seismic review should be a part of the planning process for large development projects or where a "critical facility," as defined in Section XI of the Safety Element, is involved.
- 2.5.2 The City shall continue to adopt by reference the seismic standards of the Uniform Building Code, however, as new seismic safety technologies emerge the City should be proactive in amending its standards.

### **Additional Mitigation Measures Required:**

- 4.11-15 Prior to permit approval for new structures, the City shall require all applicants to retain a geotechnical engineer to review any previously prepared site-specific geotechnical or geologic report. If no geotechnical report was prepared previously, additional geotechnical investigation may be required. A geotechnical report shall be prepared that identifies the site-specific seismic parameters, such as potential for strong ground motion/groundshaking associated with the maximum credible earthquake. This report shall also include a site-specific determination of liquefaction potential and susceptibility to earthquake-induced ground settlement hazards. The geotechnical report shall also provide a determination as to whether the existing facility could withstand the maximum credible earthquake event.
- 4.11-16 The City shall require that all emergency plans, including Business Plans, Area Plan, Multi-Hazardous Functional Plan, etc., shall include contingency plans for hazardous materials release during earthquake events, based on the identified seismic parameters, and potential for groundshaking during the maximum credible earthquake which could impact the facility. The emergency contingency plan should include identification of the chain of command for implementation of the emergency contingency plan in the event of injury to key staff. In addition, all Business Plans and Risk Management and Prevention Plans shall include a requirement that all underground storage tanks and all storage areas should be inspected for rupture and leakage after earthquakes.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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*Level of Significance After Mitigation:* Less than significant.

### **IMPACT: POTENTIAL FOR PIPELINE TRANSPORTATION ACCIDENTS**

*Impact Analysis:* Due to the presence of the oil industry in Santa Fe Springs, the City has a number of underground pipelines that transport hazardous materials. The transported material largely consists of petroleum products, including jet fuel. The use of these pipelines is declining with the decline of the oil industry in this area. Since the General Plan proposes continued protection of residential areas and little change in these areas, no impact is anticipated. The conversion of oil production lands to new industrial development must include consideration for the presence of these pipelines.

#### ***Policies Included in General Plan:***

- 5.5.1 The City will continue to work with relevant regulatory agencies to seek compliance by urban fire sources with current development and operations standards.
- 5.5.2 Continue to use redevelopment as a tool to reduce the number of urban fire hazard structures and systems.
- 5.5.3 The City will seek to review all new development as to the urban fire risks involved and how such can be minimized and as to how such developments can remain within the established fire flow requirements.
- 5.5.4 The land use planning processes will continue to review the density of structures and population as potential fire risks and consider such in development plan approval.

#### ***Additional Mitigation Measures Required:***

- 4.11-17 Prior to the tentative map approval, the City of Santa Fe Springs shall contact the State Fire Marshall's Office to identify the locations of any pipelines carrying hazardous materials. The City shall approve the tentative map only if:
  - The pipeline right-of-way has been established and shown on the map; and,
  - A condition is included that prohibits the construction of structures and the planting of large trees within the pipeline right-of-way.

*Level of Significance After Mitigation:* Less than significant.

## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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### **IMPACT: URBAN DEVELOPMENT OVER OIL AND GAS FIELDS**

**Impact Analysis:** The proposed Land Use Plan would encourage urban uses over former oil production areas.

#### **Gas Migration**

Urban development of the Santa Fe Springs Field would result in the ceasing of oil production. As a result, the oil reservoir could repressurize with methane gas. Pressurization could also occur due to seismic activity on nearby faults. If structures are built directly over abandoned wells, and the oil reservoir does repressurize, the oil and/or methane and hazardous constituents such as hydrogen sulphide gas could migrate upward through an old poorly abandoned well. The gas may also accumulate beneath developed areas where concrete and asphalt surfaces prevent the natural migration of the methane gas to the atmosphere. If this occurs, and a crack develops in the concrete or asphalt at a later time, the gas could migrate into the interior of the overlying structure and create the potential for an explosion or fire. Therefore, a study should be performed to determine the likelihood of this type of occurrence. If the study indicates that gas accumulation is a possibility, it may be necessary to drill some shallow, pressure-relief wells within, or adjacent to the site, lower the water table through pumping or reabandon old wells. Also, gas detectors, gas migration barriers or venting systems should also be considered.

#### **Attractive Nuisance Aspect of Producing Wells**

Producing wells involve moving parts that historically have caused injury when children get too close to the equipment. All idle and producing wells should be enclosed by an 6-foot high chain link fence.

#### **Blowouts**

Kicks and blowouts rarely occur in California wells. The potential exists for this rapid escape of oil and gas when the wells are drilled and reworked. Explosions and fires could result during the closure of the Santa Fe Springs Oil Field. Blowout prevention devices should be used whenever any wells are being drilled or reworked. In addition, adequate setbacks, as determined by the DOG should be provided between all new and existing wells and all structures.

#### **Soil and Groundwater Contamination**

Increased risks to public health and safety can occur due to conversion of oil fields to other uses. Oil fields are potential hazardous waste sites due to the existence of crude oil, methane gas and drilling muds associated with drilling operation. Crude oil contains hazardous constituents, such as polycyclic aromatic hydrocarbons, which, although they are naturally occurring, are carcinogenic. Emissions from oil field waste can impact human health and leachate can



## 4 ENVIRONMENTAL IMPACT ANALYSIS

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contaminate the groundwater, rendering it unusable for beneficial purposes. Prior to development, oil field waste must be remediated or capped, depending on the specific proposed use of the site.

The Santa Fe Springs Oil Field is likely to contain oil-contaminated soil in current and former sumps, tank farms, pipelines and other processing facilities. Development over these areas could result in significant health risks to future residents if the sites are not adequately cleaned up. Prior to the issuance of building permits, all soil should be remediated to the satisfaction of the Los Angeles County Environmental Health Department/Hazardous Materials section, and, if the contamination is more substantial, to the satisfaction of the Regional Water Quality Control Board and/or Department of Toxic Substances Control.

*Policies Included in General Plan:* Refer to Policies 5.5.1 to 5.5.4 above.

*Additional Mitigation Measures Required:*

- 4.11-18 Prior to recording parcel or subdivision map, all oil wells must be located and shown on the tentative map. All wells must meet the current standards of the Division of Oil and Gas (DOG). The cost of reabandonment is the responsibility of the property upon which the structure is to be located.
- 4.11-19 Under Section 3208.1 of the Public Resources Code, the reabandonment responsibilities of the owner/developer of a property upon which a structure will be located extends no further than the property line boundaries. However, if a well requiring reabandonment is on an adjacent property and near the common boundary line, the structure shall be set back sufficiently to allow future access to the well.
- 4.11-20 If any unrecorded wells are uncovered or abandoned wells are damaged during excavation or grading, remedial operations may be required. If such damage occurs, the project proponent shall perform remedial operations, as directed by the DOG.
- 4.11-21 Where practical, structures shall not to be built over a well. If construction over an abandoned well is unavoidable, an adequate gas venting system shall be placed over the well, as approved by the DOG and the City.
- 4.11-22 Access to all idle and producing wells shall be maintained, as required by the DOG, for mobile rigs and well workover equipment. The roads for well workover equipment shall have a minimum 12-foot width clearance, and shall be designed for heavyweight use. The wells should be provide with safety shut down devices.



## **4 ENVIRONMENTAL IMPACT ANALYSIS**

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- 4.11-23      Written approval is required from the DOG prior to drilling, reworking, injecting into, abandoning or reabandoning any well. For new wells and the altering of existing wells, the proposal shall include the following: 1) protecting all subsurface hydrocarbons and fresh waters; 2) protection of the environment; 3) adequate blowout prevention equipment; 4) utilizing approved drilling and cementing techniques; and, 5) adequate oil spill contingency plans.
- 4.11-24      The City of Santa Fe Springs shall not issue any building permits for land within former oil field areas unless all onsite wells have been inspected by the DOG and all known site contamination is remediated to acceptable standards.

*Level of Significance After Mitigation:* Less than significant.

## **5     *ALTERNATIVES TO THE PROJECT***

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The California Environmental Quality Act (CEQA) requires the identification and evaluation of reasonable range of alternatives designed to achieve the project's objectives, while reducing the project's significant impacts (Guidelines § 15126 sub. (d).) Since air quality is the only significant environmental impact after mitigation, this issue should be the primary focus of the alternatives analysis.

This section of the EIR addresses the potential environmental effects of the alternatives to the proposed General Plan. The first alternative is required by CEQA, the No Project Alternative. Two other alternatives were selected to provide a comparison of the environmental effects of different land use patterns and intensities in the General Plan area. Because the City is largely development and infrastructure is well established in the area, there are not large variations among the alternatives available to the City.

### **5.1    Alternative One: No Project Alternative**

Implementation of this alternative assumes that no development would occur and therefore, the community would remain as it currently exists. This alternative serves as a baseline for evaluating the impacts of the proposed General Plan.

#### **5.1.1   Land Use/General Plan/Zoning**

The No Project Alternative would maintain the current land use patterns in the City. The residential areas of the City are very stable and few changes are expected under the proposed General Plan. For this reason, the No Project Alternative would not avoid significant land use impacts and the opportunity to redevelop former oil field lands would be lost.

#### **5.1.2   Transportation**

The additional traffic generated under the proposed General Plan would not occur under this alternative. The opportunity to generate funds to improve the existing road network would also be lost under the No Project Alternative. Since no significant transportation impacts are anticipated from the project, selection of this alternative is unnecessary to avoid significant environmental impacts

#### **5.1.3   Air Quality**

The City of Santa Fe Springs is located in an air basin that is non-attainment for four of six criteria pollutants. Although the amount of additional growth anticipated in Santa Fe Springs is relatively small, the EIR recognizes the emissions growth as significant. This impact would be eliminated under the No Project Alternative.

## **5 ALTERNATIVES**

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### **5.1.4 Noise**

Under the proposed General Plan, noise would increase along major arterials due to traffic growth from General Plan-related growth and areawide development. Although this impact was not gauged to reach the level of significance, the impact attributed to General Plan-related growth would not occur. Noise increases from areawide development would continue regardless.

### **5.1.5 Soils, Geology, and Seismic Hazards**

The potential impacts associated with geology and soils would be reduced because additional people would not be exposed to the potential geologic hazards. However, the opportunity to remediate former oil production sites would be reduced if the economic returns from redevelopment are not generated. This would not be superior to the proposed General Plan.

### **5.1.6 Hydrology/Flooding**

The City is largely developed and located in a highly urbanized region. As a result, the impacts from additional impervious surfaces would not be significant. The conversion of former oil production lands would not expose large number of persons to flooding hazards.

### **5.1.7 Aesthetics**

The No Project Alternative would maintain current conditions. The opportunity to remediate and improve former oil production lands would be lost under this alternative.

### **5.1.8 Public Service/Utilities**

The City of Santa Fe Springs is largely developed, with major infrastructure already in place. Redevelopment of former oil production sites would represent infill and take advantage of existing infrastructure. Significant impacts on public services and utilities are not anticipated.

### **5.1.9 Population/Housing/Employment**

The No Project Alternative would eliminate the modest residential development allowed under the proposed General Plan. However, the trend toward greater household size would continue and the City's population would continue to growth slightly. Employment growth expected from converting the former oil production lands to urban use would be less likely to occur under this alternative.



## **5      *ALTERNATIVES***

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### **5.1.10 Biological Resources**

The No Project Alternative would eliminate further development from occurring in the City. Since potential development areas do not contain significant amounts of natural habitat, the proposed General Plan would not generate significant biological impacts. Implementation of the No Project Alternative is not necessary to eliminate significant environmental effects.

### **5.1.11 Cultural Resources**

No additional development would occur under the No Project Alternative, so the potential for cultural resource impacts would be reduced.

### **5.1.12 Public Health and Safety**

The former oil production sites will require clean-up regardless of whether they are redeveloped. The remediation process has some potential to expose workers and the public to hazardous materials. The No Project Alternative would not change this, except that site remediation is less likely to occur if funds from redevelopment are not available to assist in this process. The No Project Alternative would eliminate the introduction of new industrial uses and the potential to generate conflicts with adjacent uses. However, with current regulations and the mitigation measures identified, this impact was is considered significant.

## **5.2      Alternative Two: Mixed-Use Alternative**

Under this alternative, the General Plan would remain be modified to contain a greater mixture of land uses. The current Plan maintains the general land use patterns found in the City. Residential uses are largely contained within one region and the central core consists industrial, commercial and lands expected to convert to urban use in the future. This central core area is proposed to contain new business uses. This Mixed-Use Alternative assumes that this area would be designated to permit a greater mixture of land uses, including residential. This land use pattern may have some air quality benefits from reduced trip lengths, but it would also create additional concerns related to land use conflicts. The following sections review the relative impacts of this alternative as compared to the proposed General Plan.

### **5.2.1 Land Use/General Plan/Zoning**

This alternative would introduce residential uses to an area heavily impacted by oil production and industrial operations. Site remediation standards are higher for residential uses, which would be more difficult to attain. Remediation of contaminated sites and the long-term phase-out of various uses would create conflicts with new residential areas. While a mixture of uses for employment and housing may be desirable for transportation and air quality goals, it is likely that significant environmental impacts would be generated under this alternative.



## **5     *ALTERNATIVES***

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### **5.2.2   Transportation**

A greater mixture of land uses can have the effect of reducing the number of trips generated and reduce trip lengths as well.

### **5.2.3   Air Quality**

This impact is considered significant for the proposed General Plan. It would be considered significant under this alternative as well, although the greater mix of uses may further minimize mobile-source emission from future development. The introduction of residential uses into what is now a heavy industrial area may create conflicts from exposure to toxic contaminants generated in the industrial areas.

### **5.2.4   Noise**

The introduction of residential uses into the urbanizing areas of the City may subject these sensitive uses to high noise volumes from ongoing industrial operations.

### **5.2.5   Hydrology/Flooding**

The exposure to residents and the work force would be approximately the same under this alternative as expected under the proposed General Plan.

### **5.2.6   Aesthetics**

The visual characteristics of the area to be converted to urban use would change in generally similar ways under both this alternative and the proposed General Plan. No significant impacts would be anticipated under either alternative.

### **5.2.7   Public Service/Utilities**

The infrastructure is largely in place to serve the areas available for redevelopment. However, the introduction of residential uses in these areas would create a demand for parks and other services not currently available in these areas.

### **5.2.8   Population/Housing/Employment**

A greater number of housing opportunities would be created under this alternative. The current General Plan envisions little additional residential development in the City. Adoption of this alternative is not necessary to eliminate a significant impact related to jobs or housing.

## **5     *ALTERNATIVES***

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### **5.2.9    Biological Resources**

This alternative would have a minimal impact on biological resources, same as the proposed General Plan.

### **5.2.10   Cultural Resources**

This alternative would have minimal impact on cultural resources, same as the proposed General Plan.

### **5.2.11   Public Health and Safety**

The land use pattern currently present in the City provides a buffer between sensitive residential uses and oil production and industrial uses. The introduction of residential uses would present new impacts from the ongoing remediation and industrial development in the area.

## **5.3     Alternative Three: Existing Trends**

This alternative would maintain the current General Plan, but unlike the No Project Alternative, development would continue as permitted under the Plan. Residential uses would remain about the same, but the change from former oil production uses to Mixed Use Industrial uses would not occur.

### **5.3.1    Land Use/General Plan/Zoning**

The proposed General Plan is designed to generate some new development opportunities and lands become available for urban development. While some of the potential land use conflicts might be avoided, this alternative would eliminate that possibility that the Plan would generate economic benefits.

### **5.3.2    Transportation**

The additional traffic generation expected from conversion to urban development would occur to a far reduced extent under this alternative. However, this impact was not considered a significant impact under the proposed General Plan.

### **5.3.3    Air Quality**

This alternative would reduce mobile-source emissions due to the reduced economic activity that is likely to result.

## **5 ALTERNATIVES**

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### **5.3.4 Noise**

The urban uses that would be allowed under the existing General Plan would not be sensitive to high noise levels. The increase in traffic-related noise would be reduced under this alternative due to the reduced traffic volumes. However, implementation of this alternative is unnecessary since the impact on noise is not considered significant under the proposed General Plan.

### **5.3.5 Soils, Geology, and Seismic Hazards**

This alternative would subject fewer people to potential seismic hazards. The potential to remediate existing contaminated sites would be reduced in this alternative as well.

### **5.3.6 Hydrology/Flooding**

The exposure to flooding hazards would not be significant under either this alternative or the proposed General Plan.

### **5.3.7 Aesthetics**

The opportunity improve the visual character of the many sites through conversion to urban use would be reduced under this alternative.

### **5.3.8 Public Service/Utilities**

The areas available for urban development are infill sites that are already served by infrastructure and public services. This alternative would not eliminate any significant impacts and would reduce the potential to take advantage of the existing investment in infrastructure.

### **5.3.9 Population/Housing/Employment**

This alternative would have little impact on population, but the employment opportunities would be significantly reduced.

### **5.3.10 Biological Resources**

There are few biological resources in areas that are potential development sites. No significant impacts are expected under either this alternative or the proposed General Plan.

## **5     *ALTERNATIVES***

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### **5.3.11 Cultural Resources**

The potential areas where redevelopment is likely to occur are unlikely to contain significant cultural resources. Significant environmental impacts are not anticipated under this alternative or the proposed project.

### **5.3.12 Public Health and Safety**

This alternative would likely result in less redevelopment of former oil production facilities. Fewer conflicts might arise between the old and new uses, but the opportunity remediate many of these sites and bring them into productive use would be reduced.

## **5.4 Conclusion**

The No Project Alternative would eliminate the General Plan's contribution to significant air quality impacts and therefore, is designated as the "environmentally superior" alternative. However, it would achieve none of the objectives identified for the project and is rejected for this reason. The other alternatives are not considered environmentally superior to the proposed General Plan. These two other alternatives also would not achieve the City's stated objectives and are rejected for these reasons.





## **6      *SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF PROJECT IS IMPLEMENTED***

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Section 15126(b) of the CEQA Guidelines specifies that the Environmental Impact Report must include a description of any significant impacts, including those which can be mitigated but not reduced to a level of insignificance.

The following impact was found to be significant after mitigation.

### **6.1    AIR QUALITY**

The project will result in significant regional air quality impacts after mitigation. Growth in population and employment naturally increases the emission burden of the area and feasible off-sets are minimal at this time. Significant air pollution emissions will result from resident and non-resident mobile sources. However, actions identified by the SCAQMD for local government implementation would substantially reduce mobile source emissions associated with the General Plan.



## **7     *THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY***

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Economic and social pressures for growth in Los Angeles County are such that complete protection of the environment at the expense of community growth and well-being is not likely. Therefore, a balance must be sought that accommodates the needs of the growing population of the Southern California region, while maintaining the integrity of the environment to the degree that is practically feasible. It is the degree to which this balance is achieved in a given project that establishes the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. The proposed land uses for the Study Area, as well as policy framework in which these uses would be developed, consist of mechanisms that promote a well-planned environment while attempting to minimize the long-term environmental consequences.

As land is developed, there are several unavoidable adverse environmental impacts, some of which have long-term effects. The short-term impacts are the addition of traffic, noise, and air pollution created by construction activity. By definition, these impacts are temporary. Significant long-term effects include conversion of undeveloped land and increased air pollution, noise and traffic. See the significant unavoidable impacts discussed in Section 6.0.

The General Plan will attempt to better manage the use of environmental resources and to balance competing needs and interests in the City of Santa Fe Springs. Implementation of its policies and programs should occur now, rather than in the future to prevent further environmental degradation.





## 8 *SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD OCCUR IF THE PROPOSED ACTION IS IMPLEMENTED*

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Implementation of the proposed General Plan would result in the short-term commitment of non-renewable and/or slowly renewable energy resources, human resources, and natural resources such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, and water due to construction activities.

As the community develops, both residential and non-residential development would require further commitment of energy resources in the form of natural gas and electricity generated by coal, hydroelectrical power or nuclear energy. Increased motor vehicular travel in the Study Area would be accompanied by increased consumption of petroleum products. An increased commitment of social services and public maintenance services, e.g., waste disposal and treatment, would also be required.

Development of currently vacant land is a significant, irreversible environmental effect as it is not likely that land would revert to its original condition. In turn, developing currently vacant land results in a significant, irreversible environmental effect on biological resources and agricultural land for the same reason. The General Plan calls for the intensification and development of land in the Study Area. Currently, vacant land represents approximately 54% of all lands within the Study Area. The proposed General Plan includes policies to protect designated open space areas, as well as the preservation of endangered species. However, the General Plan is premised on development of large areas of currently vacant land.



## 9 *GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT*

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Growth-inducing impacts fall into two general categories, direct and indirect. Direct growth-inducing impacts are generally associated with the provision of urban services to an undeveloped area. The provision of these services to a site, and the subsequent development, can serve to induce other landowners in the vicinity to convert their property to urban uses. Indirect, or secondary growth-inducing impacts consist of growth induced in the region by the additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

The purpose of a General Plan is to guide growth and development in a community. Accordingly, the Plan is premised on a certain amount of growth taking place. During the past several decades, the SCAG region, including Imperial, Riverside, San Bernardino, Los Angeles, Orange and Ventura counties has been one of the fastest growing regions in the nation. Between 1950 and 1970, the population doubled in size, growing at a rate of 5% per year. The 1980 Census indicates that 11.6 million people resided in the region. Between 1980 and 1990, the region's population grew by over 25% to 14.6 million in 1990. Recent SCAG projections indicate that the region's population will increase by another 40% to 20.5 million by the year 2010.

During this same ten-year period, the population of Los Angeles County increased by 18.5% from 7,477,503 to 8,860,000, reflecting the built-out character of the county compared with other counties in the region. Southeast Cities grew at a faster rate than the region and the County during the 1980s, increasing by 28.9%, from 1,222,014 to 1,575,718. Recent projections for the year 2010 indicate that the population of the Southeast Cities will increase by 12.9% to 1,779,061.

The population growth rate between 1980 and 1990 of 6.9% for Santa Fe Springs was slower than for its neighboring jurisdictions. Although population growth in Santa Fe Springs was slower than in the region and subregion during the 1980s, this decade represents a period of relatively rapid growth for the City compared with previous decades during which the city actually lost population. Between 1960 and 1990 Santa Fe Springs experienced a net decrease in population of 980, from 16,500 in 1960 to 15,520 in 1990. The population declined at an average annual rate of 1.1% and 0.2% during the 1960s and 1970s, respectively, while during the 1980s, the population increased at an average annual rate of 0.7%. Between 1980 and 1990 the population of Santa Fe Springs increased by 6.9%, from 14,521 to 15,520, largely due to an increase in the multi-family housing stock. Recent projections for Santa Fe Springs indicate that population will increase to 17,483 by the year 2010. Based upon the Land Use Element of the General Plan, the population of the City at buildout is anticipated to be 16,936. This number, which is based on land use capacity assuming household size of 3.33 persons per dwelling unit, is somewhat lower than the population based on the projection of demographic characteristics.



## **9 GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT**

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The City of Santa Fe Springs is nearing its buildout potential for residential development. Approximately 10% (477 acres) of the City's 4,751 acres are currently zoned for residential uses, and none of this residentially zoned land is currently vacant. Although there is vacant land in both the commercial and industrial zoned categories, in many of these areas residential development would be inappropriate, due to the potential for past hazardous materials releases and/or incompatible adjacent land uses. The City has identified approximately 54 acres of additional (non-residentially zoned) land with potential for future development for residential uses. This land could accommodate affordable housing units.

Under the proposed General Plan, only 269 new dwelling units are expected to be added over the 1990 level of 4,817 dwelling units. Using the current rate of 3.33 persons per household, the resident population would increase by an estimated 896 persons, for a population at buildout of about 16,936 residents, a 6.5% increase. This may be somewhat of an underestimate, since it assumes that the rate of natural increase and persons per household have stabilized and that overcrowding does not increase. There are many new immigrants living in Santa Fe Springs, and the larger than average household size is in part attributed to differences in cultural attitudes about ideal family size. Also, there tends to be less focus on the "nuclear family," and households with multiple generations living under one roof is not uncommon in some populations, particularly in the Latino population. Nevertheless, with limited potential to add new housing in the City, the potential for future increase in resident population is expected to be insignificant. The proposed development under the General Plan is not expected to significantly increase the population in the SELAC Subregion, since only 269 new residential units would be added over the 1990 level. This represents less than 1% of the total projected increase in population for the SELAC Subregion for the year 2010.

The General Plan encourages redevelopment of former oil production lands. These are properties that require remediation, but represent infill development and have the public infrastructure already in place to serve new development. Economic development within the context of an urban, infill setting would have a beneficial impact. Since the infrastructure is largely in place, secondary growth-inducing effects do not represent a significant environmental impact.

## **10 AGENCIES AND PERSONS CONSULTED**

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### City of Santa Fe Springs

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William McMillan, Associate

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Ranji George

Connie Day

### Los Angeles County Metropolitan Transportation Authority

Joel Woodhull

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### Los Angeles County

Brian T. Sasaki, Department of Public Works

### School Districts

Norwalk-La Mirada School District

Little Lake School District

Los Nietos School District



## ***11 REPORT PREPARATION PERSONNEL***

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Lynelle Scheid	Assistant Environmental Planner
Lisa Ceran, REA	Senior Hazardous Specialist





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## **APPENDIX A**

### **NOTICE OF PREPARATION AND RESPONSES**



# Notice of Preparation

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**TO:** Office of Planning and Research  
1400 10th Street, Room 121  
Sacramento, CA 95418

**SUBJECT:** Notice of Preparation of a Draft Environmental Impact Report

Lead Agency:

Consulting Firm:

Agency Name City of Santa Fe Springs

Firm Name: The Planning Center

Street Address 11710 Telegraph Road

Street Address: 1300 Dove Street, Suite 100

City, State, Zip Santa Fe Springs, CA 90670-3658

City/State/Zip Newport Beach, CA 92660

Contact Paul Ashworth, Principal Planner

Contact Lisa Ceran, Project Manager

The City of Santa Fe Springs will be the Lead Agency and will prepare an environmental impact report for the project identified below and in the Attachment. We are requesting information regarding the views of your agency as to the scope and content of the environmental information that is necessary for your agency to carry out its regulatory responsibilities in connection with the proposed project. The California Environmental Quality Act requires that your agency consider the EIR when reviewing permits or other discretionary decisions for the project.

The project description, location, and the probable environmental effects are contained in the attached materials. A copy of the Environmental Checklist is attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Paul Ashworth at the address shown above. Please provide us with the name of the contact person in your agency for this project.

**Project Title:** Santa Fe Springs General Plan Update Environmental Impact Report (EIR)

**Project Location:** Santa Fe Springs Los Angeles  
City (nearest) County

**Project Description: (Brief)**

General Plan update including the following elements: Open Space, Conservation, Land Use, Safety, Circulation and Noise. An Environmental Element will be added that includes the following sub-elements: Hazardous Waste Management, Household Hazardous Waste, Source Reduction and Recycling and Air Quality Management. For a more detailed description please refer to Project Description in the Attachment. Five hundred and seventy nine acres of heavy industrial would be redesignated as mixed industrial including light industrial, commercial, residential and open space uses.

**Date:** November 15, 1993

**Signature:** \_\_\_\_\_

**Title:** Paul Ashworth, Principal Planner

**Telephone:** (310) 868-0511



# **Santa Fe Springs General Plan Update Environmental Impact Report**

## **Attachment to Notice of Preparation**

### **I. REGIONAL LOCATION**

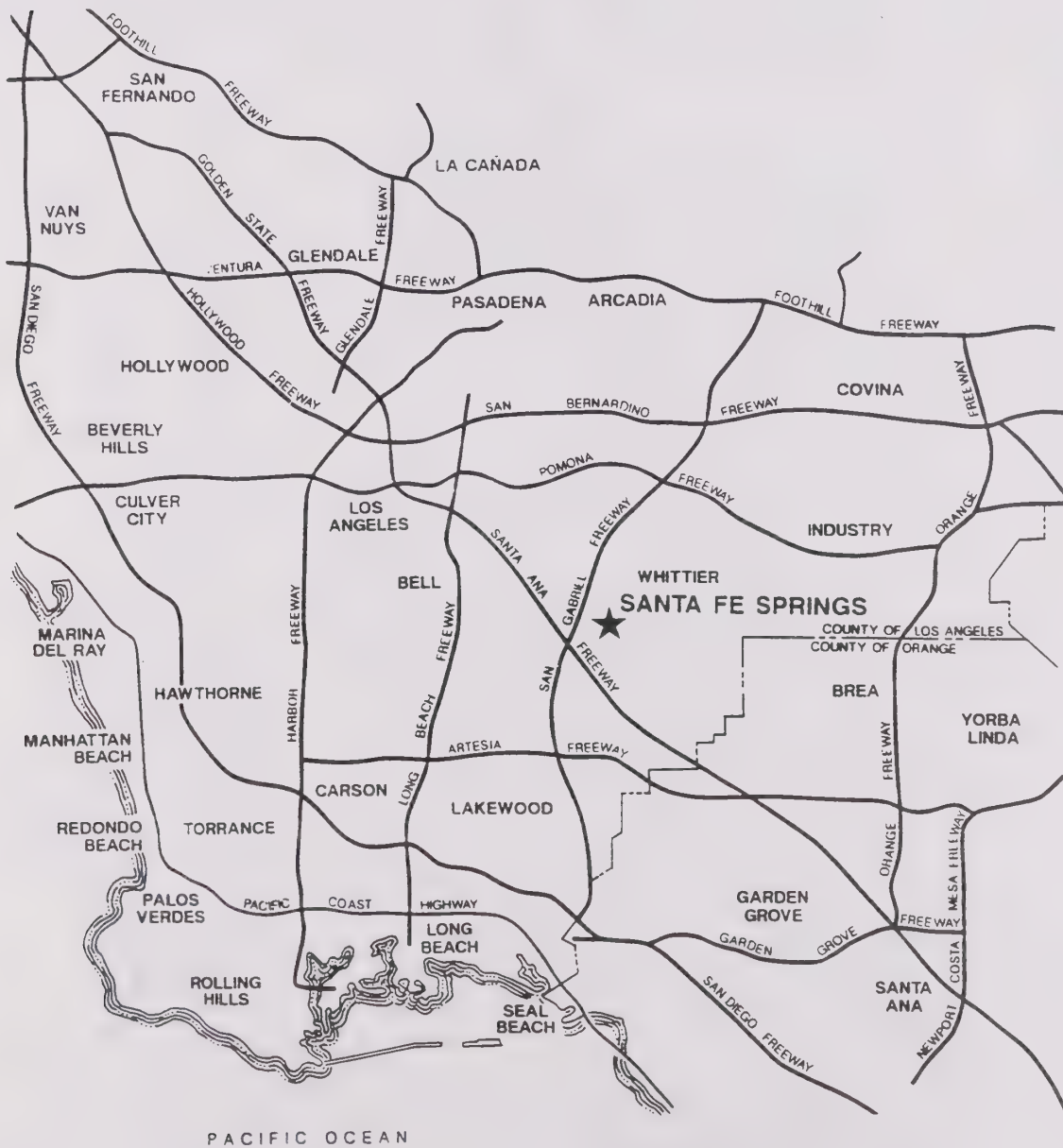
The City of Santa Fe Springs is located approximately 13 miles southeast of downtown Los Angeles and 18 miles north of the City of Long Beach, as shown on Figure 1, Regional Location Map. Neighboring cities include Whittier, La Mirada, Cerritos, Norwalk, Downey and Pico Rivera. The City lies at the convergence of two major transportation routes, Interstate Routes 5 and 605, and is traversed by the Southern Pacific and Santa Fe rail corridors (see Figure 2, Project Area Map).

### **II. PROJECT DESCRIPTION**

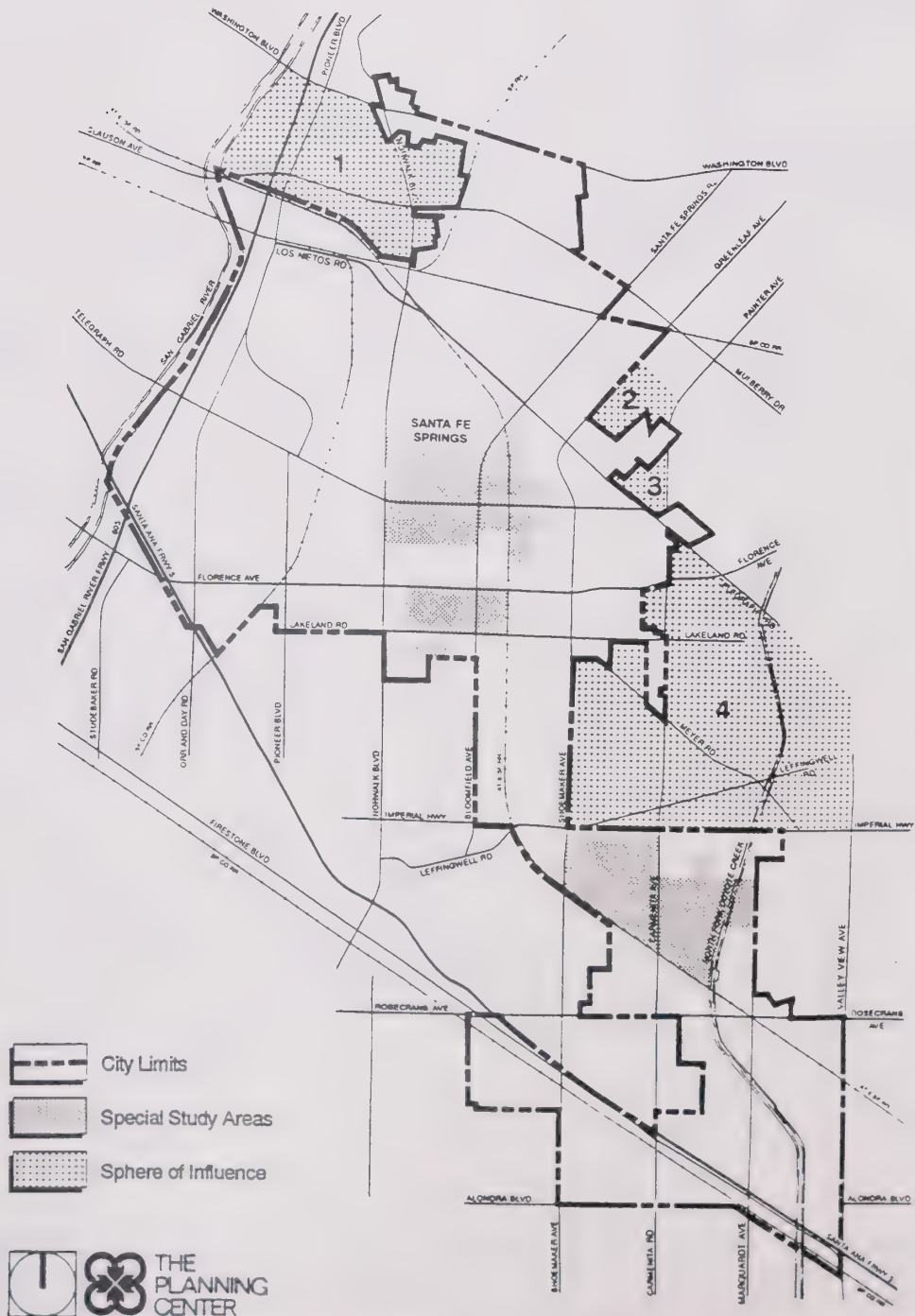
The City of Santa Fe Springs is currently updating six of the seven required elements of the General Plan, including Open Space, Conservation, Land Use, Circulation and Noise. The Housing Element was recently revised and will likely require only adjustments to satisfy new legislative requirements. The City has also elected to add an Environmental Element that covers hazardous waste management, source reduction and recycling, household hazardous waste and air quality management.

The proposed update to the General Plan would redesignate 579 acres of land currently designated as Heavy Industrial to Mixed Industrial. The 579 acres are divided into three special study areas. Special Study Area 1, including 226.93 acres, is currently an undeveloped oil field property and former oil refinery, north of Telegraph Road and east of Norwalk Boulevard, and the Townsite on the south side of Telegraph Road. Please see Figure 2, Project Area Map. Special Study Area 2, including 92.21 acres is currently the Powerine Refinery and adjacent property to the west and the Amtrak Station at Imperial Highway and Bloomfield Avenue. This site includes a former landfill. Special Study Area 3, including 261.23 acres, is currently the Golden West Oil Refinery and adjacent property. The Mixed Industrial designation could include commercial, industrial open/space and residential uses and would be implemented by the zoning "Limited Manufacturing - Planned Development (ML-PD)". All three special study areas are contaminated and are in varying stages of site cleanup, under the direction of the Regional Water Quality Control Board, Los Angeles Region. The current and proposed land uses are shown in the attached table, Santa Fe Springs General Plan Land Use Summary.

## REGIONAL LOCATION



## PROJECT AREA MAP



## SANTA FE SPRINGS GENERAL PLAN LAND USE SUMMARY

Land Use	Density (DU/Acre)/ Land Coverage	Existing			Proposed			Acres of Change
		Gross Acres	DU/Sq. Ft. <sub>2</sub>	Population <sub>1</sub>	Gross Acres	DU/Sq. Ft. <sub>2</sub>	Population <sub>1</sub>	
RESIDENTIAL								
Single Family	8.7 DUs/Acre	404.99	3,523 DUs	11,731	404.99	3,523 DUs	11,731	0
Multi-Family Condominium/ Townhouse	21.8 DUs/Acre	12.66	276 DUs	919	12.66	276 DUs	919	0
Multi-Family Apartment	21.8 DUs/Acre	50.84	1,108 DUs	3,690	50.84	1,108 DUs	3,690	0
Multi-Family Mobile Home	21.8 DUs/Acre	8.20	179 DUs	596	8.20	179 DUs	596	0
Subtotal		476.69	5,086 DUs	16,936	476.69	5,086 DUs	16,936	0
NON-RESIDENTIAL								
General Commercial	50%	34.79	757,726 sq. ft.	n/a	34.79	757,726 sq. ft.	n/a	0
Commercial Center	50%	112.35	2,446,983 sq. ft.	n/a	112.35	2,446,983 sq. ft.	n/a	0
Freeway Commercial	50%	89.73	1,954,319 sq. ft.	n/a	89.73	1,954,319 sq. ft.	n/a	0
Mixed Use Industrial	50%	103.85	2,261,853 sq. ft.	n/a	683.22	14,880,531 sq. ft.	n/a	579.37
Light Industrial	50%	188.81	4,112,281 sq. ft.	n/a	188.81	4,112,282 sq. ft.	n/a	0
Heavy Industrial <sub>3</sub>	50%	3,441.34	74,952,385 sq. ft.	n/a	2,861.97	62,333,706 sq. ft.	n/a	-579.37
Civic Center	50%	12.80	278,784 sq. ft.	n/a	12.80	278,784 sq. ft.	n/a	0
Fire Stations	50%	3.01	65,558 sq. ft.	n/a	3.01	65,558 sq. ft.	n/a	0
Churches	50%	10.82	235,660 sq. ft.	n/a	10.82	235,660 sq. ft.	n/a	0
Community & Cultural Sites	50%	22.20	483,516 sq. ft.	n/a	22.20	483,516 sq. ft.	n/a	0
Cemeteries	n/a	21.48	935,669 sq. ft.	n/a	21.48	935,669 sq. ft.	n/a	0
Parks/Open Space	n/a	111.18	4,843,001 sq. ft.	n/a	111.18	4,843,001 sq. ft.	n/a	0
Schools	50%	121.49	2,646,052 sq. ft.	n/a	121.49	2,646,052 sq. ft.	n/a	0
Subtotal	4,273.85		95,973,787 sq. ft.	n/a	4,273.85	95,973,787 sq. ft.	n/a	0
TOTAL	4,750.54			n/a	4,750.54		n/a	

1. Population is based on 3.33 persons per household, 1990 Census Data

2. Square footage is based on an average of 50% lot coverage.

3. 579.37 acres of heavy industrial is currently vacant oil fields.



### III. POTENTIAL ENVIRONMENTAL EFFECTS

The EIR will focus on the following environmental issues:

- Geology/Seismicity
- Air Quality
- Hydrology
- Biological Resources
- Noise
- Land Use/Relevant Planning
- Natural Resources
- Public Health and Safety/Risk of Upset
- Population/Housing/Employment
- Transportation/Circulation
- Public Services
- Utilities
- Aesthetics
- Cultural Resources

Due to the decision to prepare an Environmental Impact Report, an Initial Study was not prepared. However, an Environmental Checklist is attached to show the areas being considered within the EIR.

### IV. ENVIRONMENTAL CHECKLIST

	Yes	Maybe	No
1. <b>Earth.</b> Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	—	—	<u>X</u>
b. Disruptions, displacements, compaction or overcovering of the soil?	—	<u>X</u>	—
c. Change in topography or ground surface relief features?	—	X	—
d. The destruction, covering or modification of any unique geologic or physical features?	—	—	<u>X</u>
e. Any increase in wind or water erosion of soils, either on or off the site?	—	—	<u>X</u>
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	—	—	<u>X</u>

		Yes	Maybe	No
	g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	—	<u>X</u>	—
2.	<b>Air.</b> Will the proposal result in:			
	a. Substantial air emissions or deterioration of ambient air quality?	<u>X</u>	—	—
	b. The creation of objectionable odors?	—	—	<u>X</u>
	c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?	—	—	<u>X</u>
3.	<b>Water.</b> Will the proposal result in:			
	a. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?	—	—	<u>X</u>
	b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	<u>X</u>	—	—
	c. Alterations to the course or flow of flood waters?	—	—	<u>X</u>
	d. Change in the amount of surface water in any water body?	—	—	<u>X</u>
	e. Discharge into surface waters, or in any water body?	<u>X</u>	—	—
	f. Alteration of the direction or rate of flow of ground waters?	—	—	<u>X</u>
	g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	—	—	<u>X</u>
	h. Substantial reduction in the amount of water otherwise available for public water supplies?	—	—	<u>X</u>
	i. Exposure of people or property to water			

		Yes	Maybe	No
	related hazards such as flooding or tidal waves?	—	—	<u>X</u>
4.	<b>Plant Life.</b> Will the proposal result in:			
a.	Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	—	—	<u>X</u>
b.	Reduction of the numbers of any unique, rare or endangered species of plants?	—	—	<u>X</u>
c.	Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	—	—	<u>X</u>
d.	Reduction in acreage of any agricultural crop?	—	—	<u>X</u>
5.	<b>Animal Life.</b> Will the proposal result in:			
a.	Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	—	—	<u>X</u>
b.	Reduction of the numbers of any unique, rare or endangered species of animals?	—	—	<u>X</u>
c.	Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	—	—	<u>X</u>
d.	Deterioration to existing fish or wildlife habitat?	—	—	<u>X</u>
6.	<b>Noise.</b> Will the proposal result in:			
a.	Increase in existing noise levels?	<u>X</u>	—	—
b.	Exposure of people to severe noise levels?	<u>X</u>	—	—
7.	<b>Light and Glare.</b> Will the proposal produce new light or glare?	—	—	<u>X</u>
8.	<b>Land Use.</b> Will the proposal result in a substantial			

		Yes	Maybe	No
	alteration of the present or planned land use of an area?	<u>X</u>	—	—
9.	<b>Natural Resources.</b> Will the proposal result in:			
	a. Increase in the rate of use of any natural resource?	—	—	<u>X</u>
	b. Substantial depletion of any non-renewable natural resource?	—	—	<u>X</u>
10.	<b>Risk of Upset.</b> Will the proposal result in:			
	a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset condition?	—	<u>X</u>	—
	b. Possible interference with an emergency response plan or an emergency evacuation plan?	—	—	<u>X</u>
11.	<b>Population.</b> Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	—	—	<u>X</u>
12.	<b>Housing.</b> Will the proposal affect existing housing, or create a demand for additional housing?	<u>X</u>	—	—
13.	<b>Transportation/Circulation.</b> Will the proposal result in:			
	a. Generation of substantial additional vehicular movement?	<u>X</u>	—	—
	b. Effects on existing parking facilities, or demand for new parking?	<u>X</u>	—	—
	c. Substantial impact upon existing transportation systems?	—	—	<u>X</u>
	d. Alterations to present patterns of circulation or movement of people and/or goods?	<u>X</u>	—	—
	e. Alterations to waterborne, rail or air traffic?	—	—	<u>X</u>



		Yes	Maybe	No
	f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	—	<u>X</u>	—
14.	<b>Public Services.</b> Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
	a. Fire protection?	<u>X</u>	—	—
	b. Police protection?	<u>X</u>	—	—
	c. Schools?	—	<u>X</u>	—
	d. Parks or other recreational facilities?	—	—	<u>X</u>
	e. Maintenance of public facilities, including roads?	—	<u>X</u>	—
	f. Other governmental services?	<u>X</u>	—	—
15.	<b>Energy.</b> Will the proposal result in:			
	a. Use of substantial amounts of fuel or energy?	<u>X</u>	—	—
	b. Substantial increase in demand upon existing sources or energy, or require the development of new sources of energy?	—	—	<u>X</u>
16.	<b>Utilities.</b> Will the proposal result in a need for new systems, or substantial alterations to the following utilities:			
	a. Power or natural gas	<u>X</u>	—	—
	b. Communication systems	<u>X</u>	—	—
	c. Water	—	<u>X</u>	—
	d. Sewer/septic tank	<u>X</u>	—	—
	e. Storm drainage	—	<u>X</u>	—
	f. Solid waste/disposal	—	<u>X</u>	—
17.	<b>Human Health.</b> Will the proposal result in:			
	a. Creation of any health hazard or potential			

		Yes	Maybe	No
	health hazard (excluding mental health)?	—	—	<u>X</u>
	b. Exposure of people to potential health hazards?	—	—	<u>X</u>
18.	<b>Aesthetics.</b> Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	—	—	<u>X</u>
19.	<b>Recreation.</b> Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	—	—	<u>X</u>
20.	<b>Cultural Resources.</b>			
	a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic building, structure, or object?	—	<u>X</u>	—
	b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?	—	<u>X</u>	—
	c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	—	—	<u>X</u>
	d. Will the proposal restrict existing religious or sacred uses within the potential impact area?	—	—	<u>X</u>

Yes    Maybe    No

21.    **Mandatory Findings of Significance.**

- |    |   |   |          |          |
|----|---|---|----------|----------|
| a. | Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | — | <u>X</u> | —        |
| b. | Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future).   | — | —        | <u>X</u> |
| c. | Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant).  | — | <u>X</u> | —        |
| d. | Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | — | <u>X</u> | —        |

## DEPARTMENT OF TRANSPORTATION

DISTRICT 7, 120 SO. SPRING ST.  
LOS ANGELES, CA 90012-3606  
TDD (213) 620-3550



June 18, 1993

CITY OF SANTA FE SPRINGS  
IGR/CEQA/NOP - SANTA FE  
SPRINGS GENERAL PLAN  
UPDATE  
Vic LA-5-R1.21-R6.85  
Vic LA-605-R9.61-R12.05  
SCH # 93061018

Mr. Paul Ashworth  
City of Santa Fe Springs  
11710 Telegraph  
Santa Fe Springs, CA 90670

Dear Mr. Ashworth:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Santa Fe Springs General Plan Update. Based on the information received, we have the following comments:

To assist us in our efforts to completely evaluate and assess the impacts of this project on the State Transportation System, a Traffic Study that addresses the traffic impact on the Santa Ana Freeway (I-5), and the San Gabriel River Freeway (SR-605), should be prepared to analyze the following information:

- a) Level of service before and after development
- b) Traffic impacts on the Santa Ana Freeway (I-5), and the San Gabriel River Freeway (SR-605), and all significantly affected streets, crossroads, ramps, and controlling intersections, as well as an analysis of existing and future (Year 2010) conditions on mainline freeways (I-5) and (SR-605).
- c) Traffic generation (AM and PM peak hour); distribution; and assignments.
- d) Future conditions which includes both project and project + cumulative traffic generated.
- e) Traffic mitigation, if any to be proposed.

Also, any transport of hazardous waste shall comply with all applicable hazardous waste safety measures when transporting materials to and from the site. Any transport of heavy construction equipment which requires the use of oversize vehicles on State highways will require a Caltrans Transportation Permit. We recommend that truck trips be limited to off-peak commute periods.



Mr. Paul Ashworth  
Page Two  
June 18, 1993

Any work which may occur within Caltrans Right-of-way as well as, any change in grading, changes to hydraulic run-off, fill slopes, bank protection, installation of traffic control measures, etc., will require a Caltrans encroachment permit. We recommend early coordination with our Permits Section to avoid delays.

Any mitigation within the State right-of-way with costs in excess of \$300,000.00 will require a Caltrans Project Study Report.

We recommend that a Traffic Management Plan will be develop, for: construction traffic, parking, detours, lane closure, and alternate routes.

Also, we recommend that developer's percent share of the cost, as well as a plan of realistic mitigation measures under the control of the developer should be addressed. We believe that assessment fees for mitigation should be extended to cover mitigation for mainline freeway deficiencies that occur as a result of the additional traffic generated by the project.

We look forward to reviewing the DEIR. We expect to receive a copy from the State Clearinghouse. However, to expedite the review process, you may send two copies in advance to the undersigned at the following address:

Wilford Melton  
District 7 IGR/CEQA Coordinator  
Advance Planning Branch 4-11G  
120 South Spring Street  
Los Angeles, CA. 90012

Thank you for this opportunity to comment. If you have any questions regarding these comments, please call me at (213) 897-1338.

Sincerely,

*Wilford Melton*  
WILFORD MELTON  
Senior Transp. Planner  
IGR/CEQA Coordinator Advance  
Planning Branch

cc: State Clearinghouse



**South Coast  
AIR QUALITY MANAGEMENT DISTRICT**

21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (909) 396-2000

June 3, 1993

Mr. Paul Ashworth  
Principal Planner  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, CA 90670-3658

Dear Mr. Ashworth:

**Subject: Notice of Preparation of a Draft Environmental Impact Report for  
the City of Santa Fe Springs General Plan Update**

**SCAQMD# LAC930526-01**

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The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the Notice of Preparation for a Draft EIR for the City of Santa Fe Springs General Plan Update. SCAQMD is responsible for adopting, implementing, and enforcing air quality regulations in the South Coast Air Quality Management District, which includes the project location. As a responsible agency, SCAQMD reviews and analyzes environmental documents for projects that may generate significant adverse air quality impacts. In this capacity, SCAQMD advises lead agencies in addressing and mitigating the potential adverse air quality impacts caused by projects.

To assist the Lead Agency in the preparation of the air quality analysis for the EIR the following is a summarization for evaluating air quality impacts.

**Baseline Information:** Describe existing climate and air quality of the region and study area from the District Monitoring station located in the project source receptor area.

Identify and quantify all project **Emission Sources**.

Compare and assess anticipated project emissions with the District's **Thresholds of Significance** and the existing air quality of the region and study area.

Identify and assess **Toxic Source Emissions** within the study area.

Assess **Cumulative Air Quality Impacts** from the regional area.

Assess **Consistency of the General Plan** with the AQMP.

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June 3, 1993

Identify and quantify **Project Alternatives** that may attain goals of the project with substantially fewer or less significant impacts.

Identify **Mitigation Measures** necessary to reduce air quality impacts substantially.

For additional information please refer to the District's Air Quality Handbook for Preparing Environmental Impact Reports to assess and mitigate adverse air quality impacts. Attached is a list of potential policies and strategies to reduce air quality impacts if incorporated into the General Plan.

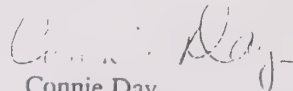
Upon completion of the Draft Environmental Impact Report, please forward two copies to:

Office of Planning & Rules  
South Coast Air Quality Management District  
21865 Copley Drive  
P O Box 4939  
Diamond Bar CA 91765-0939

Attn: Local Government - CEQA

If you have any questions, please call me at (714) 396-3055

Sincerely,



Connie Day  
Program Supervisor  
Local Government - CEQA

Attachment  
(genpinop)

**ATTACHMENT**  
**POTENTIAL POLICIES AND**  
**IMPLEMENTATION STRATEGIES**

**POLICY 1**

**To reduce particulate emissions from paved and unpaved roads, construction activities, and agriculture operations.**

**STRATEGIES:**

- o Use low emission mobile construction equipment (e.g., tractor, scraper, dozer etc.).
- o Develop trip reduction plan to achieve 1.5 AVR for construction employees.
- o Water site and clean equipment morning and evening.
- o Spread soil binders on site, unpaved roads and parking areas.
- o Apply District approved chemical soil stabilizers according to manufacturers specifications, to all inactive construction areas (previously graded areas which remain inactive for 96 hours).
- o Reestablish ground cover on construction site through seeding and watering.
- o Implement or contribute to an urban tree planting program to off-set the loss of existing trees at the construction site.
- o Employ construction activity management techniques, such as: extending the construction period; reducing the number of pieces of equipment used simultaneously; increasing the distance between the emission sources; reducing or changing the hours of construction; and scheduling activity during off-peak-hours.
- o Pave construction roads, and sweep streets if silt is carried over to adjacent public thoroughfares.
- o Reduce traffic speeds on all unpaved road surfaces to 15 miles per hour or less.
- o Require a phased-schedule for construction activities to minimize emissions.
- o Suspend grading operations during first and second stage smog alerts.
- o Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
- o Wash off trucks leaving the site.
- o Maintain construction equipment engines by keeping them tuned.
- o Use low sulfur fuel for stationary construction equipment.
- o Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- o Use low emission on-site stationary equipment.



## **POLICY 2**

**To reduce automobile emissions by reducing the number of vehicles driven to a work site on a daily basis:**

### **STRATEGIES**

- o Provide local shuttle and regional transit systems and transit shelters.
- o Provide bicycle lanes, storage areas, and amenities.
- o Ensure efficient parking management.
- o Provide dedicated parking spaces with electrical outlets for electric vehicles.
- o Provide peripheral park-n-ride lots.
- o Provide preferential parking to high occupancy vehicles and shuttle services.
- o Charge parking lot fees to low occupancy vehicles.

## **POLICY 3**

**To reduce automobile emissions by reducing the number of persons who must drive to a work site on a daily basis:**

### **STRATEGIES**

- o Promote Transportation Management Associations (TMAs).
- o Establish telecommuting programs, alternative work schedules, and satellite work centers.
- o Work with cities/developers/citizens in the region to implement TDM goals.

## **POLICY 4**

**To reduce vehicular emissions through traffic flow improvements:**

### **STRATEGIES**

- o Configure parking to minimize traffic interference.
- o Minimize obstruction of through-traffic lanes.
- o Provide a flagperson to guide traffic properly and ensure safety at construction sites.
- o Schedule operations affecting traffic for off-peak hours.
- o Develop a traffic plan to minimize traffic flow interference from construction activities. Plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service.
- o Schedule goods movements for off-peak traffic hours.
- o Synchronize traffic signals.
- o Provide adequate ingress and egress at all entrances to public facilities to minimize vehicle idling at curbsides.
- o Provide dedicated turn lanes as appropriate.

## **POLICY 5**

**To reduce the length of work trips while expanding the supply of affordable housing and creating an urban form that efficiently utilizes urban infrastructure and services.**

### **STRATEGIES**

- o Achieve a job/housing balance compatible with the Regional Growth Management Plan.
- o Encourage growth in and around activity centers, transportation nodes and corridors.
- o Promote future patterns of urban development and land use , making better use of existing facilities, and promoting mixed use development involving commercial and residential uses.

## **POLICY 6**

**To reduce stationary emissions of operation related activities.**

### **STRATEGIES:**

- o Require development practices which maximize energy conservation as a prerequisite to permit approval.
- o Improve the thermal integrity of buildings, and reduce the thermal load with automated time clocks or occupant sensors.
- o Introduce window glazing, wall insulation, and efficient ventilation methods.
- o Introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units.
- o Incorporate appropriate passive solar design, and solar heaters.
- o Use devices that minimize the combustion of fossil fuels.
- o Capture waste heat and reemploy it in nonresidential buildings.
- o Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits.

## **POLICY 7**

**To protect sensitive land uses from major sources of air pollution.**

### **STRATEGIES:**

- o Integrate additional mitigation measures into site design such as the creation of buffer zones between a potential sensitive receptor's boundary and potential pollution source.
- o Require design features, operating procedures, preventive maintenance, operator training, and emergency response planning to prevent the release of toxic pollutants.



Los Angeles County  
Metropolitan  
Transportation  
Authority

425 South Main Street  
Los Angeles, CA  
90013-1393  
213-972-6000

June 17, 1993

Mr. Paul Ashworth  
Principal Planner  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, CA 90670

Dear Mr. Ashworth:

**Re: Notice of Preparation of a Draft Environmental Impact Report for  
the City of Santa Fe Springs' General Plan Update**

The Los Angeles County Metropolitan Transportation Authority (MTA) appreciates the opportunity to comment on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the City of Santa Fe Springs' General Plan Update.

**General Comments**

MTA subscribes to the idea of reducing public dependence on the personal automobile through land use planning, project design standards and traffic mitigation strategies which encourage the use of such transportation alternatives to the single-occupant automobile as transit, ridesharing, biking and walking.

We believe that the solution to the regional traffic problem lies not in expanding roadways, but in diverting additional trips to higher capacity modes and avoiding as many vehicle trips as possible.

We also believe that the traffic impact of a project should be viewed more broadly to include not only congestion, but also the general environmental impacts of traffic on air quality, noise, public safety, and public health.

A narrow view of traffic impact as consisting only of congestion has led to the traditional but misleading conception of traffic congestion mitigations as environmental mitigations. This view of traffic impact has also resulted in an over-emphasis on traffic mitigation measures designed to accommodate the



Mr. Paul Ashworth  
June 17, 1993  
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personal automobile and improve speed.

The environmental review process provides an excellent opportunity to institute an innovative and area-wide traffic mitigation program consistent with the current efforts of the South Coast Air Quality Management District and Los Angeles County's Congestion Management Program to reduce auto trips.

#### **Transportation Demand Management Recommendations**

- 1. The DEIR should include a comprehensive traffic mitigation program designed to achieve full mitigation.**

The goal of traffic mitigation should be to achieve full mitigation i.e., the project should not result in a net increase in vehicle traffic in the city, even though the project itself will usually result in additional vehicle trips.

One step toward achieving full mitigation is to reduce project generated vehicle trips on a site-specific basis through Transportation Demand Management (TDM) measures such as alternative transportation modes, economic parking management, telecommuting, etc. The next step is to reduce vehicle trips elsewhere in the city by the amount of the project's residual vehicle trips (those not mitigated by TDM). This step could be in the form of developer financial contributions towards mitigating traffic elsewhere in the city (see the attached "Environmental Mitigation of Traffic Impacts").

We strongly recommend that a detailed traffic study, including mode split analysis, be conducted as part of the environmental impact review for this project. The traffic study should estimate the proportion of the project's total vehicle trips that will be reduced through TDM measures. It should also provide the expected breakdown, by mode (e.g. carpool, transit, etc.), of the project's average daily traffic.

Finally, the DEIR should include specific steps for mitigating the environmental impacts of any residual trips not eliminated by TDM measures.

- 2. The traffic mitigation program should include specific policies and strategies designed to encourage the use of alternative transportation modes.**

Mr. Paul Ashworth  
June 17, 1993  
Page 3

MTA recommends the following strategies, among others:

- Adopt a City-wide Trip Reduction Plan.
  - Institute City-wide Transportation Management Association (TMA) and require major employers in the area to coordinate their TDM activities through the TMA.
  - Institute a development standards review policy which would provide the opportunity to review individual projects for their traffic impacts and compatibility with transit and the other transportation alternatives to the single-occupant vehicle. It would also provide incentives such as density bonuses, reduced parking requirements, or traffic mitigation fees (see attached, "A Transit Based Approach to Land use Design").
  - Develop specific policies and strategies to take advantage of the transit linkage opportunities provided by the proximity of the project area to major bus lines.
  - Provide convenient pedestrian access including wide and well-illuminated sidewalks. These tend to encourage pedestrian activity and promote a sense of security for transit patrons.
  - Provide convenient transit amenities such as covered bus shelters set back from the street with benches and adequate lighting.
3. **Institute an economic parking management program in the project area and reduce the number of required parking spaces.**

The DEIR should include a parking management program for the project area. Economic parking management should be considered an important aspect of an effective traffic mitigation program, because the ample availability of free parking, especially in suburban communities like Santa Fe Springs tends to encourage dependence on the personal automobile. A recent case study of suburban office parking in Southern California, sponsored by the U.S. Department of Transportation, indicates that there is an oversupply of parking at most suburban worksites (see attached Executive Summary of "Suburban Parking Economics and Policy").

The City should consider setting maximum limits on the number of parking spaces instead of the conventional practice of requiring a minimum number of spaces.

The number of required parking spaces could be linked to a developer's

Mr. Paul Ashworth  
June 17, 1993  
Page 4

TDM efforts by reducing the number of required spaces for developers who commit to a strong TDM program.

4. **The DEIR should provide information on all transit facilities and services serving the project area.**

The project area is currently served by the following MTA bus Lines:

**Line 104:** Operates between Los Angeles and Fullerton Park-Ride Lot via Whittier and La Mirada.

**Lines 111:** Operates between LAX and Whittwood Mall via Florence Avenue, Telegraph Road and Leffingwell Road.

**Line 120:** Operates between LAX City Bus Center and Brea Mall via Imperial Highway.

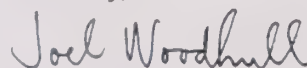
**Lines 270:** Operates between Monrovia and Cerritos via El Monte, Whittier, Santa Fe Springs, and Norwalk.

**Line 462:** Operates between Los Angeles and Hawaiian Gardens via Santa Fe Springs and Norwalk.

**Line 466:** Operates between Los Angeles and La Mirada via Rosecrans Avenue.

The MTA is willing to cooperate with the City of Santa Fe Springs on any transit related aspects of the project. We look forward to receiving the DEIR when it becomes available. If you need additional information, please feel free to contact me at (213) 972-4850.

Sincerely,



Joel Woodhull  
Planning Manager

Attachments



JUN 1 1993

Los Angeles County  
Metropolitan  
Transportation  
Authority

818 West Seventh Street  
Suite 300  
Los Angeles, CA 90017

213.623.1194

June 1, 1993

Mr. Paul Ashworth  
Principal Planner  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, CA 90670-3658

Dear Mr. Ashworth:

Thank you for providing the MTA with an opportunity to comment on the NOP for the Santa Fe Springs General Plan Update.

The MTA, as the designated Congestion Management Agency for Los Angeles County, is currently implementing the Congestion Management Program (CMP) adopted in November, 1992.

One element of CMP legislation requires that local agencies adopt a program to analyze the impact of land use decisions on the CMP regional highway system. This analysis is to be accomplished in conjunction with the preparation of EIR's. As required by the adopted 1992 CMP, the EIR is required to address several key issues. The Transportation Impact Analysis (TIA's) guidelines in the adopted CMP (contained in Appendix D) provide the specific requirements for this EIR analysis.

In general, the Transportation Impact Analysis guidelines contained in the CMP require that EIR's address the following:

- an examination of the affected geographic area as defined in the TIA Guidelines;
- documentation and estimation of background traffic conditions as described in the TIA Guidelines;
- estimates of proposed project traffic generation;
- projection of trip distribution patterns consistent with the TIA procedures;
- project impact analysis;



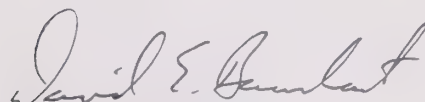
Mr. Paul Ashworth  
June 1, 1993  
Page 2

- identification and evaluation of mitigation measures for significant identified impacts on the CMP system, including fair share cost estimates; and
- coordination with transit operators to ensure that anticipated demand generated by the project can be accommodated. Worksheets intended to facilitate this discussion are contained in the TIA Guidelines.

Please refer to the adopted CMP for more specific information about the analysis requirements.

If you have any questions, please call Ray Maekawa at (213) 244-6442.

Cordially,



DAVID E. BARNHART  
Director, Southeast Area

DEB:glg [Maekawa\Ashworth.ltr]

cc: Brad McAllester, CMP  
Lisa Ceran, The Planning Center



THOMAS A. TIDEMANSON, Director

## COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

900 SOUTH FIREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (818) 458-5100

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

July 6, 1993

IN REPLY PLEASE REFER TO FILE P-4

Mr. Paul Ashworth  
Principal Planner  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, CA 90670-3658

Dear Mr. Ashworth:

### RESPONSE TO A NOTICE OF PREPARATION (NOP) SANTA FE SPRINGS GENERAL PLAN UPDATE

As indicated in our letter dated June 22, 1993, we are now forwarding additional comments regarding the NOP of a Draft Environmental Impact Report for the proposed General Plan Update. Our comments are as follows:

Current estimates indicate that a shortfall in permitted daily land disposal capacity in Los Angeles County will occur within the next five years. Any new development resulting from the proposed General Plan Update will increase the generation of solid waste and will negatively impact solid waste management facilities in the County. Therefore, the environmental analysis must identify what measures the project proponent will implement to mitigate the impact. These measures may include, but are not limited to, development of new or expansion of existing landfill sites, implementation of waste reduction, recycling and composting programs, as well as programs to divert construction and demolition waste from landfills. In addition, the City's Source Reduction and Recycling Element should be directly referenced.

The California Solid Waste Refuse and Recycling Access Act of 1991 requires each jurisdiction to adopt an ordinance (by September 1, 1993), requiring each "development project" to provide for an adequate storage area for collection or removal of recyclable materials. Consequently, the report should discuss standards to provide adequate "waste storage areas" for collection/storage of recyclable and green waste materials for any development approved under this general plan update.

The existing hazardous waste management (HWM) facilities in this County are inadequate to handle the hazardous waste currently being generated. Any new development resulting from the proposed General Plan Update may generate hazardous waste, including household hazardous waste, which could adversely impact existing HWM facilities. This issue should be addressed and mitigation measures provided.

A portion of the plan is located in an area designated as potentially suitable for off-site HWM facilities as identified in the Los Angeles County HWM Plan, September 1988, Volume II, Figure 6-1. The report must discuss this issue and include mitigation measures for potential waste management facilities displacement.

Mr. Paul Ashworth  
July 6, 1993  
Page 2

This environmental document needs to fully assess the impact, if any, on the quality of stormwater as the result of the plan update document. The document should reference National Pollutant Discharge Elimination System Permit CA0061654 issued by the California Regional Water Quality Control Board, Los Angeles Region, to the County and local agencies. The document should indicate compliance with all relevant stormwater quality management programs of the Federal, State, County, and local agencies.

Should any project within the plan area include the installation of underground storage tanks and/or industrial waste control or disposal facilities, the Los Angeles County Department of Public Works (LACDPW), Waste Management Division, must be contacted for required approvals and operating permits.

Any mitigation measure monitoring program performed by the LACDPW, Waste Management Division, will require a funding account to be established by the project proponent to pay for the required services. The amount of necessary funds will be determined at the time monitoring is scheduled to be performed. The LACDPW, Waste Management Division, must be contacted to establish the funding account.

If you have any questions regarding these comments, please contact Mr. Russell W. Bukoff of our Waste Management Division at (818) 458-2186.

If you have any questions regarding the environmental reviewing process of this Department, please contact Ms. Clarice Nash at the previous page address or at (818) 458-4334.

Very truly yours,

T. A. TIDEMANSON  
Director of Public Works

*Michael H. Nagao*

*for* BRIAN T. SASAKI  
Assistant Deputy Director  
Planning Division

MA:my/276

Enc.



THOMAS A. TIDEMANSON, Director

## COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (818) 458-5100

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

June 22, 1993

IN REPLY PLEASE P-4  
REFER TO FILE

Mr. Paul Ashworth  
Principal Planner  
City of Santa Fe Springs  
11710 Telegraph Road  
Santa Fe Springs, CA 90670-3658

Dear Mr. Ashworth:

### RESPONSE TO A NOTICE OF PREPARATION (NOP) SANTA FE SPRINGS GENERAL PLAN UPDATE

Thank you for the opportunity to provide comments on the NOP of a Draft Environmental Impact Report (DEIR) for the proposed City of Santa Fe Springs General Plan Update. Although we have not completed the review of the NOP, we offer the following comments. We will forward additional comments when we complete our review.

#### Traffic/Circulation

We believe that the proposed General Plan Update could significantly impact the existing circulation system within the City of Santa Fe Springs and the adjacent roadways and intersections in the unincorporated areas of the County of Los Angeles. A traffic study should be prepared on a project-by-project basis to identify the traffic impacts and ensure that appropriate mitigation measures are proposed. If traffic signals or other mitigation measures are warranted at the affected intersections, the developer should contribute to the cost. In addition, the developer should determine his/her proportionate share of signal or other mitigation costs. Lastly, the City of Santa Fe Springs should be requested to give us an opportunity to review those traffic study documents for our input.

If you have any questions regarding these comments, please contact Mr. James Chon of our Traffic Investigations and Studies Section at (818) 458-5909.

#### Drainage Planning

Currently, we do not have any storm drain projects under study in the project area. However, your City has identified drainage deficiencies within the project area. Enclosed is a location map showing these drainage needs. You should consider including measures to address these drainage needs as part of the General Plan Update.



Mr. Paul Ashworth  
June 22, 1993  
Page 2

If you have any questions regarding these comments, please contact Mr. Jerry Chang of our Planning Division at (818) 458-4325.

If you have any questions regarding the environmental reviewing process of this Department, please contact Ms. Clarice Nash at the previous page address or at (818) 458-4334.

Very truly yours,

T. A. TIDEMANSON  
Director of Public Works



BRIAN T. SASAKI  
Assistant Deputy Director  
Planning Division

MA:my/266

Enc.





## **APPENDIX B**

### **AIR QUALITY**





# REPORT FOR FILE : SFS-01W1

## 1. Site Variables

U= 0.5 M/S                      ZO= 100.0 CM  
 BRG= 0.0 DEGREES              VD= 0.0 CM/S  
 CLASS= G STABILITY            VS= 0.0 CM/S  
 MIXH= 1000.0 M                AMB= 0.0 PPM  
 SIGTH= 10.0 DEGREES          TEMP= 9.5 DEGREE (C)

## 2. Link Description

LINK	*	LINK COORDINATES (M)				*	EF	H	W
DESCRIPTION	*	X1	Y1	X2	Y2	* TYPE	VPH	(G/MI)	(M)
A. SB RAMP NBA		210	0	210	200	AG	35	4.6	0.0
D. SB RAMP NBD		210	200	210	400	AG	1341	4.6	0.0
C. SB RAMP SBA		190	400	190	200	AG	457	4.6	0.0
D. SB RAMP SBD		200	190	190	0	AG	48	4.6	0.0
E. TELEGRAP EBA		0	190	200	190	AG	1722	4.6	0.0
F. TELEGRP EBD		200	190	400	190	AG	1857	4.6	0.0
G. TELEGRPH WBA		400	210	210	200	AG	2397	4.6	0.0
H. TELEGRPH WBD		210	200	0	210	AG	1365	4.6	0.0

* MIXW												
* L	R	STPL	DCLT	ACCT	SPD					EFI	IDT1	IDT2
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B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
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H.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

## 3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	215	215	1.3
RECEPTOR	2	230	230	1.3
RECEPTOR	3	246	246	1.3
RECEPTOR	4	261	261	1.3

# REPORT FOR FILE : SFS-011

## 1. Site Variables

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BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	G STABILITY	VS=	0.0 CM/S
MIXH=	1000.0 M	AMB=	0.0 PPM
SIGTH=	10.0 DEGREES	TEMP=	9.5 DEGREE (C)

## 2. Link Description

LINK DESCRIPTION	* *	LINK COORDINATES (M)	* *	EF (G/MI)	H (M)	U (M)				
		X1	Y1	X2	Y2	* TYPE	VPH			
A. ORR NBA		210	0	210	200	AG	429	4.6	0.0	21.2
B. ORR NBD		210	200	210	400	AG	748	4.6	0.0	21.2
C. ORR SBA		190	400	190	200	AG	745	4.6	0.0	21.2
D. ORR SBD		200	190	190	0	AG	172	4.6	0.0	21.2
E. FLORENCE EBA		0	190	200	190	AG	2122	4.6	0.0	21.2
F. FLORENCE EBD		200	190	400	190	AG	1870	4.6	0.0	21.2
G. FLORENCE WBA		400	210	210	200	AG	2032	4.6	0.0	21.2
H. FLORENCE WBD		210	200	0	210	AG	2538	4.6	0.0	21.2

LINK	* *	MIXW L (M)	R (M)	STPL (M)	BCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
G.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
H.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

## 3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	215	215	1.3
RECEPTOR	2	230	230	1.3
RECEPTOR	3	246	246	1.3
RECEPTOR	4	261	261	1.3

# REPORT FOR FILE : SFS-01W1

## 1. Site Variables

U= 0.5 M/S ZC= 100.0 CM  
 BRG= 0.0 DEGREES VD= 0.0 CM/S  
 CLASS= G STABILITY VS= 0.0 CM/S  
 MIXH= 1000.0 M AMB= 0.0 PPM  
 SIGTH= 10.0 DEGREES TEMP= 0.5 DEGREE (C)

## 2. Link Description

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DESCRIPTION	*	X1	Y1	X2	Y2	* TYPE	VPH	(G/MI)	(M)
A. PIONEER NBA		209	0	209	200	AG	461	4.6	0.0
B. PIONEER NBD		209	200	209	400	AG	399	4.6	0.0
C. PIONEER SBA		191	400	191	200	AG	473	4.6	0.0
D. PIONEER SBD		200	191	191	0	AG	485	4.6	0.0
E. TELEPGH EBA		0	190	200	190	AG	1847	4.6	0.0
F. TELEPGH EBD		200	190	400	190	AG	1841	4.6	0.0
G. TELEPGH WBA		400	210	210	200	AG	1924	4.6	0.0
H. TELEPGH WBD		210	200	0	210	AG	1985	4.6	0.0

* MIXW												
* L	R	STPL	DCLT	ACCT	SPD					EFI	IDT1	IDT2
LINK	* (M)	(M)	(M)	(SEC)	(SEC)	(MPH)	NCYC	NDLA	VPHO	(G/MIN)	(SEC)	(SEC)
A.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
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G.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
H.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

## 3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	215	215	1.3
RECEPTOR	2	230	230	1.3
RECEPTOR	3	246	246	1.3
RECEPTOR	4	261	261	1.3



# REPORT FOR FILE : SFS-01M1

## 1. Site Variables

U= 0.5 M/S                      ZC= 100.0 CM  
 DRG= 0.0 DEGREES              VD= 0.0 CM/S  
 CLASS= 3 STABILITY            VS= 1.0 CM/S  
 MINH= 1000.0 M                WMD= 1.0 PPM  
 SIGTH= 10.0 DEGREES          TEMP= 0.5 DEGREE (C)

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LINK	*	LINK COORDINATES (M)				*	EF	H	V
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A. NORWALK NDA		209	200	209	200	AG	1161	4.6	0.0
B. NORWALK NED		209	200	209	200	AG	1174	4.6	0.0
C. NORWALK SDA		209	200	209	200	AG	1188	4.6	0.0
D. NORWALK SDD		209	201	209	201	AG	1185	4.6	0.0
E. WASH EBA		209	201	209	201	AG	1182	4.6	0.0
F. WASH EBD		209	201	209	201	AG	1189	4.6	0.0
G. WASH WBA		209	209	209	209	AG	1113	4.6	0.0
H. WASH WBD		209	200	209	209	AG	1076	4.6	0.0

* MINW												
* L	R	SIPL	PCLT	ACCT	SPD				EFI	IDT1	IDT2	
LINK	(M)	(M)	(M)	(SEC)	(SEC)	(MPH)	NCYC	NDLA	VPHO	(G/MIN)	(SEC)	(SEC)
A.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
G.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
H.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

## 3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	215	215	1.3
RECEPTOR 2	230	230	1.3
RECEPTOR 3	240	240	1.3
RECEPTOR 4	261	261	1.3

# REPORT FOR FILE : SFS-01WF

## 1. Site Variables

U= 0.5 M/S Z0= 100.0 CM  
 ERG= 0.0 DEGREES WD= 0.0 CM/S  
 CLASS= 1 STABILITY VS= 0.0 CM/S  
 MIXH= 1000.0 M AMB= 0.0 PPM  
 SIGTH= 10.0 DEGREES TEMP= 9.5 DEGREE (C)

## 2. Link Description

LINK	*	LINK COORDINATES (M)				*	EF	H	W
DESCRIPTION	*	X1	Y1	X2	Y2	* TYPE	VPH	(G/MI)	(M)
A. PIONEER WBA		209		209	200	AG	272	4.6	0.0
B. PIONEER WBD		209	200	209	400	AG	307	4.6	0.0
C. PIONEER SBA		201	200	191	200	AG	272	4.6	0.0
D. PIONEER SBD		200	201	191	0	AG	358	4.6	0.0
E. NIETOS WBA		200	202	200	192	AG	18	4.6	0.0
F. NIETOS WBD		200	192	400	192	AG	254	4.6	0.0
G. NIETOS WBA		400	208	208	200	AG	445	4.6	0.0
H. NIETOS WBD		208	200	0	208	AG	34	4.6	0.0

* MIXH												
LINK	* L	R	STPL	DCLT	ACCT	SPD	NCYC	NDLA	VPHO	EFI	IDT1	IDT2
	(M)	(M)	(M)	(SEC)	(SEC)	(MPH)			(G/MIN)	(SEC)	(SEC)	
A.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
B.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
C.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
D.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
E.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
F.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
G.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
H.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	

## 3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	215	215	1.3
RECEPTOR	2	230	230	1.3
RECEPTOR	3	246	246	1.3
RECEPTOR	4	261	261	1.3

# REPORT FOR FILE : SFS-01W

## 1. Site Variables

V= 0.5 M/S                      ZC= 100.0 CM  
 BRG= 0.0 DEGREES              VD= 0.0 CM/S  
 CLASS= 0 STABILITY            VS= 0.0 CM/S  
 MIXH= 1000.0 M                WMB= 1.0 RPM  
 SIGTH= 10.0 DEGREES          TEMP= 9.5 DEGREE (C)

## 2. Link Description

LINK	* DESCRIPTION	LINK COORDINATES (M)				* TYPE	VPH	EF (G/MI)	H (M)	W (M)
		1	2	3	4					
A.	ARMEN NBA	200	0	200	200	AG	1226	4.6	0.0	18.2
B.	ARMEN NBD	209	200	209	400	AG	1138	4.6	0.0	18.2
C.	ARMEN SBA	101	100	101	200	AG	707	4.6	0.0	18.2
D.	ARMEN SBD	200	191	191	0	AG	247	4.6	0.0	18.2
E.	TELEGPB EBA	0	190	190	190	AG	1737	4.6	0.0	21.2
F.	TELEGPB EBD	200	190	400	190	AG	1728	4.6	0.0	21.2
G.	TELEGPB WBA	400	210	210	200	AG	1010	4.6	0.0	21.2
H.	TELEGPB WBD	210	200	0	210	AG	967	4.6	0.0	21.2

* MINW												
LINK	* L (M)	R (M)	STPL (M)	BCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
G.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
H.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

## 3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	215	215	1.3
RECEPTOR	2	230	230	1.3
RECEPTOR	3	246	246	1.3
RECEPTOR	4	261	261	1.3

# REPORT FOR FILE : SFS-01W7

## 1. Site Variables

U= 0.5 M/S                      ZC= 100.0 CM  
 BRG= 0.0 DEGREES              VD= 0.0 CM/S  
 CLASS= G STABILITY            VS= 0.0 CM/S  
 MIXH= 1000.0 M                LMB= 0.0 PPM  
 SIGTH= 10.0 DEGREES          TEMP= 9.5 DEGREE (C)

## 2. Link Description

LINK	*	LINK COORDINATES (M)				*		EF	H	V
DESCRIPTION	*	X1	Y1	X2	Y2	* TYPE	VPH	(G/MI)	(M)	(M)
A. VALLEY NBA		209	0	209	200	AG	1304	4.6	0.0	18.2
B. VALLEY NBD		209	200	209	400	AG	1497	4.6	0.0	18.2
C. VALLEY SBA		191	400	191	199	AG	1419	4.6	0.0	18.2
D. VALLEY SBD		200	191	191	0	AG	1339	4.6	0.0	18.2
E. ALONDRA EBA		0	191	200	191	AG	1342	4.6	0.0	18.2
F. ALONDRA EBD		200	191	400	191	AG	1279	4.6	0.0	18.2
G. ALONDRA WBA		400	209	209	200	AG	794	4.6	0.0	18.2
H. ALONDRA WBD		209	200	0	209	AG	1044	4.6	0.0	18.2

		MIXW											
	*	L	R	STPL	DCLT	ACCT	SPD				EFI	IDT1	IDT2
LINK	*	(M)	(M)	(M)	(SEC)	(SEC)	(MPH)	NCYC	NDLA	VPHO	(G/MIN)	(SEC)	(SEC)
A.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
G.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
H.		0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

## 3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	215	215	1.3
RECEPTOR	2	230	230	1.3
RECEPTOR	3	246	246	1.3
RECEPTOR	4	261	261	1.3



# REPORT FOR FILE : SFS-01W8

## 1. Site Variables

U=	0.5 M/S	ZO=	100.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	G STABILITY	VS=	0.0 CM/S
MIXH=	1000.0 M	AMB=	0.0 PPM
SIGTH=	10.0 DEGREES	TEMP=	9.5 DEGREE (C)

## 2. Link Description

LINK	*	LINK COORDINATES (M)				*		EF	H	W
DESCRIPTION	*	X1	Y1	X2	Y2	* TYPE	VPH	(G/MI)	(M)	(M)
A. PIONEER NBA		209	0	209	200	AG	604	4.6	0.0	18.2
B. PIONEER NBD		209	200	209	400	AG	387	4.6	0.0	18.2
C. PIONEER SBA		191	200	191	200	AG	590	4.6	0.0	18.2
D. PIONEER SBD		200	191	191	0	AG	744	4.6	0.0	18.2
E. FLORENCE EBA		0	190	200	190	AG	1655	4.6	0.0	21.2
F. FLORENCE EBD		200	190	400	190	AG	1490	4.6	0.0	21.2
G. FLORENCE WBA		400	210	210	200	AG	1785	4.6	0.0	21.2
H. FLORENCE WBD		210	200	0	210	AG	2003	4.6	0.0	21.2

* MIXW												
LINK	* L	R	STPL	DCLT	ACCT	SPD				EFI	IDT1	IDT2
	(M)	(M)	(M)	(SEC)	(SEC)	(MPH)	NCYC	NDLA	VPH0	(G/MIN)	(SEC)	(SEC)
A.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
G.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
H.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

## 3. Receptor Coordinates

		X	Y	Z
RECEPTOR	1	215	215	1.3
RECEPTOR	2	230	230	1.3
RECEPTOR	3	246	246	1.3
RECEPTOR	4	261	261	1.3

# REPORT FOR FILE : SFS-01W9

## 1. Site Variables

U= 0.5 M/S                      ZO= 100.0 CM  
 BRG= 0.0 DEGREES              VD= 0.0 CM/S  
 CLASS= G STABILITY            VS= 0.0 CM/S  
 MINH= 1000.0 M                ANB= 0.0 PPM  
 SIGHT= 10.0 DEGREES          TEMP= 9.5 DEGREE (C)

## 2. Link Description

LINK DESCRIPTION	* *	LINK COORDINATES (M)				* *	EF	H	W
		X1	Y1	X2	Y2	TYPE	VPH	(G/MI)	(M)
A. DICE NBA		208	0	208	200	AG	101	4.6	15.1
B. DICE NBD		208	200	208	400	AG	5	4.6	15.1
C. DICE SBA		192	400	192	200	AG	20	4.6	15.1
D. DICE SBD		200	192	192	0	AG	53	4.6	15.1
E. SLAUSON EBA		0	191	200	191	AG	1024	4.6	18.2
F. SLAUSON EBD		200	191	400	191	AG	1048	4.6	18.2
G. SLAUSON WBA		400	209	209	200	AG	1136	4.6	18.2
H. SLAUSON WBD		209	200	0	209	AG	1145	4.6	18.2

* MIXW												
* L	R	STPL	DCLT	ACCT	SPD					EFI	IDT1	IDT2
LINK	* (M)	(SEC)	(SEC)	(SEC)	(MPH)	NCYC	NDLA	VPHO	(G/MIN)	(SEC)	(SEC)	
A.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
B.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
C.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
D.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
E.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
F.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
G.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	
H.	0	0	0	0.0	0.0	0	0	0	0.0	0.0	0.0	

## 3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	215	215	1.3
RECEPTOR 2	230	230	1.3
RECEPTOR 3	246	246	1.3
RECEPTOR 4	261	261	1.3



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**City of Santa Fe Springs  
General Plan Update**

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**MITIGATION MONITORING  
PROGRAM**

Prepared for:

**City of Santa Fe Springs**

Prepared by:

**The Planning Center**

September 12, 1994





***SANTA FE SPRINGS  
GENERAL PLAN UPDATE***

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**MITIGATION MONITORING PROGRAM**

**September 1994**

*Prepared for:*

**The City of Santa Fe Springs**

*Prepared by:*

**The Planning Center**



CITY OF SANTA FE SPRINGS  
GENERAL PLAN UPDATE

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## CITY OF SANTA FE SPRINGS GENERAL PLAN UPDATE

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### 1.0 MONITORING PROGRAM DESCRIPTION AND PURPOSE

#### 1.1 LEGISLATIVE MANDATE

Assembly Bill 3180<sup>1</sup> requires public agencies to adopt mitigation monitoring or reporting programs for all projects for which an environmental impact report or "mitigated" negative declaration has been prepared. This new law is intended to ensure the implementation of all mitigation measures adopted through the California Environmental Quality Act (CEQA) process.

The following is the full text of the legislation:

*Section 1.* Section 21081.6 is added to the Public Resources Code, to read: 21081.6. When making findings required by subdivision (a) of Section 21081 or when adopting a negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21081, the public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The reporting of monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of an agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program.

*Section 2.* No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because of the local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act.

This legislation does not convey any new powers to public agencies. The conditions and changes imposed on projects through CEQA have always been enforced through the previously existing police powers of the agency. This is the same with the implementation of AB 3180.

#### 1.2 PROJECT DESCRIPTION

The proposed project involves an update of the City's General Plan. The Santa Fe Springs General Plan functions as a guide for local government decision-makers, citizens and the development community with respect to land use and development. The General Plan contains seven elements or "chapters": land use, housing, circulation, conservation, noise and public safety. The General Plan also contains an optional Environmental Element.

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<sup>1</sup> Codified as Public Resources Code 21081.6.

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## **2.0 ROLE/RESPONSIBILITIES AND PROCEDURES**

### **2.1 ROLES AND RESPONSIBILITIES**

The Mitigation Monitoring Program (MMP) for the proposed General Plan update will be in place through all phases of implementation of the project. The City of Santa Fe Springs will have the primary enforcement role for the mitigation measures. The Director of Planning and Development of the City of Santa Fe Springs may delegate individual enforcement tasks to various City departments.

The Environmental Monitor (EM) will be responsible for the operation of the Monitoring Program. The Environmental Monitor will be designated by the Director of Planning and Development. The EM is responsible for managing any technical advisors and coordinating monitoring activities with City staff and for directing the preparation and filing of Reports.

### **2.2 MITIGATION MONITORING PROCEDURES**

The intent of this monitoring program is to ensure that the mitigation measures adopted as part of the General Plan update are implemented, but without creating a cumbersome administrative process. Upon adoption of the MMP, the Environmental Manager will identify the key staff person responsible for implementing each mitigation measure in Table 1, Mitigation Monitoring Checklist. A copy of the MMP will then be distributed to all such staff members.

On a quarterly basis, the Environmental Manager will contact each staff member to identify how mitigation measures have been implemented. The status box in the matrix will be used to record such progress. The completed matrix will be filed with the Director of Planning and Development

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### 3.0 MEASURES TO BE MONITORED

The following lists all mitigation measures identified in the Initial Study and adopted as part of the Environmental Impact Report.

- 4.2-1 Table 9 identifies the specific roadway improvements needed to accomplish the Circulation Element under the two land use alternatives. These improvements shall be implemented as funding allows through appropriate City programs (capital improvement programming, development approvals, etc).
- 4.2-2 The City should consider adding these grade separations to the list of improvements identified in Table 9.
- 4.3-1 All active portions of construction sites, earthen access roads, and material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice a day with complete coverage, preferably in the late morning and after work is done for the day. Where feasible, reclaimed water shall be used.
- 4.3-2 All clearing, grading, earth moving, or excavation activities shall cease during periods of winds greater than 25 miles per hour average over one hour.
- 4.3-3 All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- 4.3-4 The area disturbed by clearing, earth moving, or excavation activities shall be minimized at all times. This can be accomplished by mowing instead of disking for weed control and seeding and watering inactive portions of the construction site until grass growth is evident.
- 4.3-5 Construction site vehicle speed shall be limited to 15 miles per hour.
- 4.3-6 Streets adjacent to the project site shall be swept as needed to remove silt which may have accumulated from construction activities.
- 4.3-7 All internal combustion engine driven equipment shall be properly maintained and well tuned according to the manufacturer's specifications.
- 4.3-8 During the smog season (May through October), the construction period shall be lengthened to minimize the number of vehicles and equipment operating at the same time.
- 4.3-9 Diesel powered or electric equipment shall be utilized in lieu of gasoline powered engines.



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- 4.3-10 Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and a flagperson shall be retained to maintain safety adjacent to existing roadways.
- 4.3-11 The use of energy efficient street lighting and parking lot lighting (low pressure sodium vapor lights) shall be considered throughout the project area to reduce emissions at the power plant.
- 4.3-12 Low polluting and high efficiency appliances shall be encouraged for development plans wherever possible.
- 4.3-13 Landscaping shall include water efficient plant species and irrigation to reduce water consumption and provide passive solar benefits.
- 4.3-14 Design guidelines for project developments shall consider innovative solutions to encourage transit ridership and other alternative transportation modes.
- 4.3-15 Design ingress and egress points in new developments to minimize idling vehicle emissions.
- 4.3-16 Encourage use of alternative fuel vehicles in vehicle fleets and design new facilities to set aside space for refueling or electrical recharging of vehicles.
- 4.4-1 Consistent with Strategy 1 and 2, analyze the design and location of all future transportation improvements and recommend noise mitigation in the response to the Notice of Preparations and/or Draft Environmental Impact Reports.
- 4.4-2 Where mitigation of capacity enhancing roadway improvements is not feasible to reduce noise to less than significant levels, promoting alternative transportation modes, such as walking, bicycling and transit within sensitive areas should be encouraged.
- 4.4-3 Ensure that the Zoning Regulation fully integrates the policies adopted in the Noise Element.
- 4.4-4 Require noise studies for development projects within the future 60 CNEL contour identified in Figures 28 and 29.
- 4.4-5 All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers identified from contractor maintenance records.
- 4.4-6 To the extent feasible, stationary equipment shall be placed such that emitted noise is directed away from nearby residences, schools, convalescent hospitals and community centers, or to a combination of these receptors.

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- 4.4-7 Equipment staging areas shall be located to create the greatest feasible distance between noise sources and sensitive receptors during construction activities and shall be identified in this way on construction plans.
- 4.5-1 In accordance with federal requirements, NPDES construction activity permits shall be required of all future proposed development projects of five or more acres.
- 4.5-2 The City shall require that new developments provide on-site drainage detention to ensure that the capacity of downstream facilities will not be exceeded.
- 4.7-1 The City shall work with the School Districts to ensure that school facility impact fees are collected and shall work with developers and School Districts to establish programs that ensure future school facilities will be available.
- 4.9-1 Development proposals within the vacant areas of the 227-acre Special Study Area I, the 91-acre Special Study Area II and the 261-acre Golden West Refinery shall include biological assessments.
- 4.9-2 Prior to any impact on riparian vegetation or blue-line streams designated on the USGS 7.5 minute topographic map, the Department of Fish and Game will be consulted to determine if a 1601/1603 permit will be required and appropriate actions will be taken to comply with conditions as necessary.
- 4.10-1 Prior to development, buildings or structures in excess of 45 years of age should be evaluated against criteria for inclusion in the National Register of Historic Places.
- 4.10-2 Projects should be reviewed by the Archaeological Information Center during the Initial Study Phase of the planning process so that the potential for yielding cultural resources can be evaluated and recommendations for treatment can be made for the proposed area of development.
- 4.10-3 Properties listed in the Directory of Properties in the Historic Property Data File should be protected from damage or destruction.
- 4.10-4 For any project with a potential impact, a records search shall be conducted by a qualified archaeologist through the Archaeological Information Center. This office is authorized by the State Historic Preservation Officer to make recommendations regarding the degree of evaluation to be required. Adequate evaluation ranges from a halt-word condition being applied to the permit to evaluation of resource significance through test excavations. The Information Center will provide project specific information of previous surveys and of recorded sites within or immediately adjacent to a project area.
- 4.11-1 The City of Santa Fe Springs shall review all development applications for potential land use conflicts related to hazardous materials.

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- 4.11-2 The City of Santa Fe Springs and school districts shall not approve any school or daycare center within a 1/4-mile radius of the storage of hazardous materials without requiring the performance of a health risk assessment (Public Resources Code Section 21151).
- 4.11-3 The City of Santa Fe Springs shall maintain on file a current list, developed by the Los Angeles County Environmental Health Department, of all hazardous waste sites and deed-restricted properties and shall not approve any application for sites on the list without consulting with the Los Angeles County Environmental Health Department and the California Environmental Protection Agency.
- 4.11-4 During the environmental review of development projects, where warranted, the City of Santa Fe Springs shall contact the South Coast Air Quality Management District to identify facilities within the project vicinity that emit toxic air contaminants. The City shall notify the SCAQMD of the proposed project and shall ask for a determination that either:
- Facilities exist within the project vicinity that, based on a Health Risk Assessment, are known to emit toxic air contaminants resulting in a cancer risk of greater than one in one million or ten in one million; or
  - Facilities exist within the project vicinity that emit toxic air contaminants, but were not required to prepare a health risk assessment due to the lack of proximity of receptors; or
  - No facilities exist within the project vicinity that emit toxic air contaminants.
- The City of Santa Fe Springs shall not approve residential uses and other sensitive receptors within zones of cancer risk identified by a Health Risk Assessment of greater than ten in one million. If facilities exist within the project vicinity that were not required to prepare a Health Risk Assessment due to the lack of proximity of receptors, the City shall discuss the proposed project with the SCAQMD to determine the potential for health impacts on the new development.
- 4.11-5 The City of Santa Fe Springs shall require a conditional use permit for any project that handles acutely hazardous materials and that the Los Angeles County Environmental Health Department has determined must prepare a RMPP. The RMPP shall be submitted to the City as part of a complete application.
- 4.11-6 The City of Santa Fe Springs and all school districts shall not approve the siting of new schools within a 1/4-mile radius of the storage and handling of hazardous materials unless it has been shown that no significant health risk exists. The City of Santa Fe Springs shall not approve any new industrial or commercial use within 1/4-mile of schools, daycare facilities, convalescent homes and medical facilities unless it has been shown that no significant health risk exists. The City and school districts shall utilize the standards set by the South Coast Air Quality Management District,

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Cal-EPA Department of Toxic Substances Control or Air Resources Board at the time of project approval. The current standard of significant cancer risk shall be one in one million or ten in one million if Best Available Control Technology is utilized. The current standard of significant non-cancer health risk is a hazard index of .5.

- 4.11-7 During the review of all projects, the City of Santa Fe Springs shall consult with or review data provided by the Los Angeles County Environmental Health Department, Regional Water Quality Control Board, Department of Toxic Substances Control and Integrated Solid Waste Management Agency to determine if any known contamination exists on the proposed site. If contamination exists, the City shall require that the site be remediated prior to the issuance of any building or grading permits.
- 4.11-8 During the site review process for industrial projects, the City of Santa Fe Springs shall identify any sensitive environmental receptors in the project vicinity for groundwater contamination, such as drinking water wells, pipelines, aqueducts, high groundwater, recharge areas, or known continuity between shallow and deep aquifers. If these conditions exist, additional mitigation may be needed, such as groundwater monitoring wells.
- 4.11-9 The City of Santa Fe Springs shall identify high accident potential streets and intersections and shall establish recommended transportation routes that will avoid these areas, wherever possible (see Figures 45 and 46).
- 4.11-10 The City of Santa Fe Springs Fire Department shall update the Multi-Hazardous Functional Plan as required to respond as quickly as possible.
- 4.11-11 The City of Santa Fe Springs shall identify any high-accident risk areas within the proposed circulation system. The City shall implement feasible mitigation measures to reduce the potential for accidents, and shall work with the California Department of Transportation (Caltrans), where applicable. When considering the development of sensitive receptors, the City shall consider the proximity to designated explosives routes (Section 1150 of the California Code of Regulations).
- 4.11-12 The City of Santa Fe Springs shall encourage the use of rail transport over truck transport of hazardous materials.
- 4.11-13 The City of Santa Fe Springs Fire Department shall obtain a list from the railroad, pursuant to PUC General Order 161, of all hazardous materials either transported or stored by the railroads within the Study Area boundaries. The Fire Department shall revise the Area Plan and the Multi-Hazard Functional Plan as necessary to provide for the safest possible response.
- 4.11-14 The Fire Department shall provide this information to the Los Angeles County Hazardous Material Incident Response Team.



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- 4.11-15 Prior to permit approval for new structures, the City shall require all applicants to retain a geotechnical engineer to review any previously prepared site-specific geotechnical or geologic report. If no geotechnical report was prepared previously, additional geotechnical investigation may be required. A geotechnical report shall be prepared that identifies the site-specific seismic parameters, such as potential for strong ground motion/groundshaking associated with the maximum credible earthquake. This report shall also include a site-specific determination of liquefaction potential and susceptibility to earthquake-induced ground settlement hazards. The geotechnical report shall also provide a determination as to whether the existing facility could withstand the maximum credible earthquake event.
- 4.11-16 The City shall require that all emergency plans, including Business Plans, Area Plan, Multi-Hazardous Functional Plan, etc., shall include contingency plans for hazardous materials release during earthquake events, based on the identified seismic parameters, and potential for groundshaking during the maximum credible earthquake which could impact the facility. The emergency contingency plan should include identification of the chain of command for implementation of the emergency contingency plan in the event of injury to key staff. In addition, all Business Plans and Risk Management and Prevention Plans shall include a requirement that all underground storage tanks and all storage areas should be inspected for rupture and leakage after earthquakes.
- 4.11-17 Prior to the tentative map approval, the City of Santa Fe Springs shall contact the State Fire Marshall's Office to identify the locations of any pipelines carrying hazardous materials. The City shall approve the tentative map only if:
- The pipeline right-of-way has been established and shown on the map; and,
  - A condition is included that prohibits the construction of structures and the planting of large trees within the pipeline right-of-way.
- 4.11-18 Prior to recording parcel or subdivision map, all oil wells must be located and shown on the tentative map. All wells must meet the current standards of the Division of Oil and Gas (DOG). The cost of reabandonment is the responsibility of the property upon which the structure is to be located.
- 4.11-19 Under Section 3208.1 of the Public Resources Code, the reabandonment responsibilities of the owner/developer of a property upon which a structure will be located extends no further than the property line boundaries. However, if a well requiring reabandonment is on an adjacent property and near the common boundary line, the structure shall be set back sufficiently to allow future access to the well.
- 4.11-20 If any unrecorded wells are uncovered or abandoned wells are damaged during excavation or grading, remedial operations may be required. If such damage occurs, the project proponent shall perform remedial operations, as directed by the DOG.

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- 4.11-21 Where practical, structures should not to be built over a well. If construction over an abandoned well is unavoidable, an adequate gas venting system shall be placed over the well, as approved by the DOG and the City.
- 4.11-22 Access to all idle and producing wells shall be maintained, as required by the DOG, for mobile rigs and well workover equipment. The roads for well workover equipment shall have a minimum 12-foot width clearance, and shall be designed for heavyweight use. The wells should be provide with safety shut down devices.
- 4.11-23 Written approval is required from the DOG prior to drilling, reworking, injecting into, abandoning or reabandoning any well. For new wells and the altering of existing wells, the proposal shall include the following: 1) protecting all subsurface hydrocarbons and fresh waters; 2) protection of the environment; 3) adequate blowout prevention equipment; 4) utilizing approved drilling and cementing techniques; and, 5) adequate oil spill contingency plans.
- 4.11-24 A geotechnical study of the Santa Fe Springs Oil and Gas Field shall be prepared and shall include the following:
- The City of Santa Fe Springs shall not issue any building permit for land within the former oil field areas unless all onsite wells have been inspected by the DOG and all known site contamination is remediated to acceptable standards.

CITY OF SANTA FE SPRINGS  
GENERAL PLAN UPDATE

TABLE 1  
MITIGATION MONITORING CHECKLIST

Mitigation Measure		Key City Department Responsibility	Status	Date
#	Text			
4.2-1	Table 9 identifies the specific roadway improvements needed to accomplish the Circulation Element under the two land use alternatives. These improvements shall be implemented as funding allows through appropriate City programs (capital improvement programming, development approvals, etc).			
4.2-2	The City should consider adding these grade separations to the list of improvements identified in Table 9.			
4.3-1	All active portions of construction sites, earthen access roads, and material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice a day with complete coverage, preferably in the late morning and after work is done for the day. Where feasible, reclaimed water shall be used.			
4.3-2	All clearing, grading, earth moving, or excavation activities shall cease during periods of winds greater than 25 miles per hour average over one hour.			
4.3-3	All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.			
4.4-4	The area disturbed by clearing, earth moving, or excavation activities shall be minimized at all times. This can be accomplished by mowing instead of disking for weed control and seeding and watering inactive portions of the construction site until grass growth is evident.			
4.3-5	Construction site vehicle speed shall be limited to 15 miles per hour.			
4.3-6	Streets adjacent to the project site shall be swept as needed to remove silt which may have accumulated from construction activities.			
4.3-7	All internal combustion engine driven equipment shall be properly maintained and well tuned according to the manufacturer's specifications.			
4.3-8	During the smog season (May through October), the construction period shall be lengthened to minimize the number of vehicles and equipment operating at the same time.			
4.3-9	Diesel powered or electric equipment shall be utilized in lieu of gasoline powered engines.			
4.3-10	Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and a flagperson shall be retained to maintain safety adjacent to existing roadways.			
4.3-11	The use of energy efficient street lighting and parking lot lighting (low pressure sodium vapor lights) shall be considered throughout the project area to reduce emissions at the power plant.			
4.3-12	Low polluting and high efficiency appliances shall be encouraged for development plans wherever possible.			
4.3-13	Landscaping shall include water efficient plant species and irrigation to reduce water consumption and provide passive solar benefits.			
4.3-14	Design guidelines for project developments shall consider innovative solutions to encourage transit ridership and other alternative transportation modes.			
4.3-15	Design ingress and egress points in new developments to minimize idling vehicle emissions.			

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TABLE 1  
MITIGATION MONITORING CHECKLIST

Mitigation Measure		Key City Department Responsibility	Status	Date
#	Text			
4.3-16	Encourage use of alternative fuel vehicles in vehicle fleets and design new facilities to set aside space for refueling or electrical recharging of vehicles.			
4.4-1	Consistent with Strategy 1 and 2, analyze the design and location of all future transportation improvements and recommend noise mitigation in the response to the Notice of Preparations and/or Draft Environmental Impact Reports.			
4.4-2	Where mitigation of capacity enhancing roadway improvements is not feasible to reduce noise to less than significant levels, promoting alternative transportation modes, such as walking, bicycling and transit within sensitive areas should be encouraged.			
4.4-3	Ensure that the Zoning Regulation fully integrates the policies adopted in the Noise Element.			
4.4-4	Require noise studies for development projects within the future 60 CNEL contour identified in Figures 28 and 29.			
4.4-5	All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers identified from contractor maintenance records.			
4.4-6	To the extent feasible, stationary equipment shall be placed such that emitted noise is directed away from nearby residences, schools, convalescent hospitals and community centers, or to a combination of these receptors.			
4.4-7	Equipment staging areas shall be located to create the greatest feasible distance between noise sources and sensitive receptors during construction activities and shall be identified in this way on construction plans.			
4.5-1	In accordance with federal requirements, NPDES construction activity permits shall be required of all future proposed development projects of five or more acres.			
4.5-2	The City shall require that new developments provide on-site drainage detention to ensure that the capacity of downstream facilities will not be exceeded.			
4.7-1	The City shall work with the School Districts to ensure that school facility impact fees are collected and shall work with developers and School Districts to establish programs that ensure future school facilities will be available.			
4.9-1	Development proposals within the vacant areas of the 227-acre Special Study Area I, the 91-acre Special Study Area II and the 261-acre Golden West Refinery shall include biological assessments.			
4.9-2	Prior to any impact on riparian vegetation or blue-line streams designated on the USGS 7.5 minute topographic map, the Department of Fish and Game will be consulted to determine if a 1601/1603 permit will be required and appropriate actions will be taken to comply with conditions as necessary.			
4.10-1	Prior to development, buildings or structures in excess of 45 years of age should be evaluated against criteria for inclusion in the National Register of Historic Places.			
4.10-2	Projects should be reviewed by the Archaeological Information Center during the Initial Study Phase of the planning process so that the potential for yielding cultural resources can be evaluated and recommendations for treatment can made for the proposed area of development.			
4.10-3	Properties listed in the Directory of Properties in the Historic Property Data File should be protected from damage or destruction.			



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**TABLE 1  
MITIGATION MONITORING CHECKLIST**

Mitigation Measure		Key City Department Responsibility	Status	Date
#	Text			
4.10-4	For any project with a potential impact, a records search shall be conducted by a qualified archaeologist through the Archaeological Information Center. This office is authorized by the State Historic Preservation Officer to make recommendations regarding the degree of evaluation to be required. Adequate evaluation ranges from a halt-word condition being applied to the permit to evaluation of resource significance through test excavations. The Information Center will provide project specific information of previous surveys and of recorded sites within or immediately adjacent to a project area.			
4.11-1	The City of Santa Fe Springs shall review all development applications for potential land use conflicts related to hazardous materials.			
4.11-2	The City of Santa Fe Springs and school districts shall not approve any school or daycare center within a 1/4-mile radius of the storage of hazardous materials without requiring the performance of a health risk assessment (Public Resources Code Section 21151).			
4.11-3	The City of Santa Fe Springs shall maintain on file a current list, developed by the Los Angeles County Environmental Health Department, of all hazardous waste sites and deed-restricted properties and shall not approve any application for sites on the list without consulting with the Los Angeles County Environmental Health Department and the California Environmental Protection Agency.			
4.11-4	<p>During the environmental review of development projects, where warranted, the City of Santa Fe Springs shall contact the South Coast Air Quality Management District to identify facilities within the project vicinity that emit toxic air contaminants. The City shall notify the SCAQMD of the proposed project and shall ask for a determination that either:</p> <ul style="list-style-type: none"> <li>Facilities exist within the project vicinity that, based on a Health Risk Assessment, are known to emit toxic air contaminants resulting in a cancer risk of greater than one in one million or ten in one million; or</li> <li>Facilities exist within the project vicinity that emit toxic air contaminants, but were not required to prepare a health risk assessment due to the lack of proximity of receptors; or</li> <li>No facilities exist within the project vicinity that emit toxic air contaminants.</li> </ul> <p>The City of Santa Fe Springs shall not approve residential uses and other sensitive receptors within zones of cancer risk identified by a Health Risk Assessment of greater than ten in one million. If facilities exist within the project vicinity that were not required to prepare a Health Risk Assessment due to the lack of proximity of receptors, the City shall discuss the proposed project with the SCAQMD to determine the potential for health impacts on the new development.</p>			
4.11-5	The City of Santa Fe Springs shall require a conditional use permit for any project that handles acutely hazardous materials and that the Los Angeles County Environmental Health Department has determined must prepare a RMPP. The RMPP shall be submitted to the City as part of a complete application.			

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TABLE 1 MITIGATION MONITORING CHECKLIST				
Mitigation Measure		Key City Department Responsibility	Status	Date
#	Text			
4.11-6	The City of Santa Fe Springs and all school districts shall not approve the siting of new schools within a 1/4-mile radius of the storage and handling of hazardous materials unless it has been shown that no significant health risk exists. The City of Santa Fe Springs shall not approve any new industrial or commercial use within 1/4-mile of schools, daycare facilities, convalescent homes and medical facilities unless it has been shown that no significant health risk exists. The City and school districts shall utilize the standards set by the South Coast Air Quality Management District, Cal-EPA Department of Toxic Substances Control or Air Resources Board at the time of project approval. The current standard of significant cancer risk shall be one in one million or ten in one million if Best Available Control Technology is utilized. The current standard of significant non-cancer health risk is a hazard index of .5.			
4.11-7	During the review of all projects, the City of Santa Fe Springs shall consult with or review data provided by the Los Angeles County Environmental Health Department, Regional Water Quality Control Board, Department of Toxic Substances Control and Integrated Solid Waste Management Agency to determine if any known contamination exists on the proposed site. If contamination exists, the City shall require that the site be remediated prior to the issuance of any building or grading permits.			
4.11-8	During the site review process for industrial projects, the City of Santa Fe Springs shall identify any sensitive environmental receptors in the project vicinity for groundwater contamination, such as drinking water wells, pipelines, aqueducts, high groundwater, recharge areas, or known continuity between shallow and deep aquifers. If these conditions exist, additional mitigation may be needed, such as groundwater monitoring wells.			
4.11-9	The City of Santa Fe Springs shall identify high accident potential streets and intersections and shall establish recommended transportation routes that will avoid these areas, wherever possible (see Figures 45 and 46).			
4.11-10	The City of Santa Fe Springs Fire Department shall update the Multi-Hazardous Functional Plan as required to respond as quickly as possible.			
4.11-11	The City of Santa Fe Springs shall identify any high-accident risk areas within the proposed circulation system. The City shall implement feasible mitigation measures to reduce the potential for accidents, and shall work with the California Department of Transportation (Caltrans), where applicable. When considering the development of sensitive receptors, the City shall consider the proximity to designated explosives routes (Section 1150 of the California Code of Regulations).			
4.11-12	The City of Santa Fe Springs shall encourage the use of rail transport over truck transport of hazardous materials.			
4.11-13	The City of Santa Fe Springs Fire Department shall obtain a list from the railroad, pursuant to PUC General Order 161, of all hazardous materials either transported or stored by the railroads within the Study Area boundaries. The Fire Department shall revise the Area Plan and the Multi-Hazard Functional Plan as necessary to provide for the safest possible response.			
4.11-14	The Fire Department shall provide this information to the Los Angeles County Hazardous Material Incident Response Team.			

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TABLE 1  
MITIGATION MONITORING CHECKLIST

Mitigation Measure		Key City Department Responsibility	Status	Date
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4.11-15	Prior to permit approval for new structures, the City shall require all applicants to retain a geotechnical engineer to review any previously prepared site-specific geotechnical or geologic report. If no geotechnical report was prepared previously, additional geotechnical investigation may be required. A geotechnical report shall be prepared that identifies the site-specific seismic parameters, such as potential for strong ground motion/groundshaking associated with the maximum credible earthquake. This report shall also include a site-specific determination of liquefaction potential and susceptibility to earthquake-induced ground settlement hazards. The geotechnical report shall also provide a determination as to whether the existing facility could withstand the maximum credible earthquake event.			
4.11-16	The City shall require that all emergency plans, including Business Plans, Area Plan, Multi-Hazardous Functional Plan, etc., shall include contingency plans for hazardous materials release during earthquake events, based on the identified seismic parameters, and potential for groundshaking during the maximum credible earthquake which could impact the facility. The emergency contingency plan should include identification of the chain of command for implementation of the emergency contingency plan in the event of injury to key staff. In addition, all Business Plans and Risk Management and Prevention Plans shall include a requirement that all underground storage tanks and all storage areas should be inspected for rupture and leakage after earthquakes.			
4.11-17	Prior to the tentative map approval, the City of Santa Fe Springs shall contact the State Fire Marshall's Office to identify the locations of any pipelines carrying hazardous materials. The City shall approve the tentative map only if: <ul style="list-style-type: none"> <li>The pipeline right-of-way has been established and shown on the map; and,</li> <li>A condition is included that prohibits the construction of structures and the planting of large trees within the pipeline right-of-way.</li> </ul>			
4.11-18	Prior to recording parcel or subdivision map, all oil wells must be located and shown on the tentative map. All wells must meet the current standards of the Division of Oil and Gas (DOG). The cost of reabandonment is the responsibility of the property upon which the structure is to be located.			
4.11-19	Under Section 3208.1 of the Public Resources Code, the reabandonment responsibilities of the owner/developer of a property upon which a structure will be located extends no further than the property line boundaries. However, if a well requiring reabandonment is on an adjacent property and near the common boundary line, the structure shall be set back sufficiently to allow future access to the well.			
4.11-20	If any unrecorded wells are uncovered or abandoned wells are damaged during excavation or grading, remedial operations may be required. If such damage occurs, the project proponent shall perform remedial operations, as directed by the DOG.			
4.11-21	Where practical, structures should not to be built over a well. If construction over an abandoned well is unavoidable, an adequate gas venting system shall be placed over the well, as approved by the DOG and the City.			
4.11-22	Access to all idle and producing wells shall be maintained, as required by the DOG, for mobile rigs and well workover equipment. The roads for well workover equipment shall have a minimum 12-foot width clearance, and shall be designed for heavyweight use. The wells should be provide with safety shut down devices.			



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4.11-23	Written approval is required from the DOG prior to drilling, reworking, injecting into, abandoning or reabandoning any well. For new wells and the altering of existing wells, the proposal shall include the following: 1) protecting all subsurface hydrocarbons and fresh waters; 2) protection of the environment; 3) adequate blowout prevention equipment; 4) utilizing approved drilling and cementing techniques; and, 5) adequate oil spill contingency plans.			
4.11-24	<p>A geotechnical study of the Santa Fe Springs Oil and Gas Field shall be prepared and shall include the following:</p> <p>The City of Santa Fe Springs shall not issue any building permit for land within the former oil field areas unless all onsite wells have been inspected by the DOG and all known site contamination is remediated to acceptable standards.</p>			



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